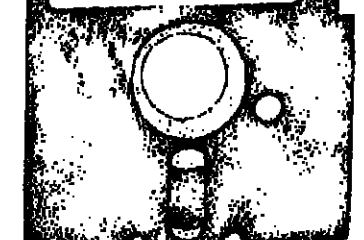


Inside

Teaching the unteachable? ALEXANDER GOEHR, himself a composer and professor of music, looks at the problems and values of music education and considers whether the kind of spontaneity and intuition demanded for creativity is likely to be damaged by the constraints of an academic course (page 13)

Information technology



Every student should have one in the first of a monthly series on INFORMATION TECHNOLOGY, Jon Turney considers how universities and colleges will cope with the computer boom (page 11)

THE YOUTH TRAINING SCHEME: Clive Seale sets out the facts and figures and examines the aspirations and prejudices (page 14)

The father of modern GENETICS: one hundred years after the death of Gregor Mendel, Hans Kalmus reevaluates the Austrian monk's contribution to biological thought and dispels a few of the prevailing myths (page 15)

Love of beauty, sense of justice: J.P. Watson considers two new volumes about JOHN RUSKIN and a new selection of WILLIAM MORRIS'S political writings (page 17)

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John Hope Mason on Denis Diderot and the *Encyclopédie*. Women into Science and Engineering Year. Bookends - corruption and misadventure in politics and up from Calvinism. W. W. Robson on Fred Kaplan's new biography of Thomas Carlyle.



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Continuing responsibility

The next six months should see a significant sharpening of the still fuzzy outline of continuing education. The University Grants Committee's continuing education working party has just completed its first report which will be published today or on Monday. The National Advisory Body's continuing education group has promised to produce a substantial report by the summer to be in time to influence the NAB's next planning exercise which will start in the autumn.

At present continuing education is an alarmingly flexible, even volatile, category. In the case of the universities the term embraces two quite separate traditions, the Tawneyite liberal adult education of the extramural departments and the highly specific postgraduate professional courses typical of medicine but now spreading rapidly through most applied sciences. In the polytechnics and colleges it is often difficult to establish a sensible demarcation between "initial" higher education with many mature students enrolled on its large number of flexible and diverse courses and "continuing" higher education. Often the difference seems to be one of degree rather than of kind.

So both the UGC and the NAB groups have had to contrive a definition of continuing education that is not so narrow that it remains imprisoned on the periphery of higher education but not so wide that it looks like an unconvincing take-over bid for the mainstream. Nor is this balance between discretion and ambition the only one which they need to keep. Similar balances have to be maintained between those who treasure the liberal ideals of adult education and those who see it as a means to the attainment of terms of the entrepreneurship of full-cost fees, and between those who regard continuing education as compensation ("to each according to his needs...") and so emphasize access and similar courses and their more powerful rivals who see it as consolidation ("to him that hath...") and so emphasize up-dating and professional improvement.

Arguably the NAB group has the simpler task. Continuing education in polytechnics and colleges is an inchoate activity not divided by rival ideologies and also an integrated activity not demarcated sharply from the mainstream of those institutions' work. The UGC working party was not so lucky. It had to come to terms with the battered but highly articulate tradition of adult education, to arrange a marriage of convenience between this tradition and the rival practice of professional up-dating popular in other parts of the university, and then to map out a convincing strategy for the newly unified continuing education.

So "responsible body" status, under which a majority but not all English universities receive a direct grant from the Department of Education and Science to provide liberal adult education through extramural departments, was bound to be a key issue in the UGC inquiry. Formally the working party has ducked it by asking the DES to take a final decision; informally the wording of their report leaves little doubt that they would support its abolition.

The oblique approach adopted by the working party can perhaps be excused. Nothing would have been worse than to drive the extramural departments into a Tawneyite laager, to trigger off a re-run of the last days of the Advisory Council for Adult and Continuing Education - except possibly to deny altogether that "responsible body" status has become an anachronism and must either be reformed or abolished.

After all, its present form has drifted a long way from the original purposes for which it was introduced in 1907. Then the idea was to provide preparatory courses for regular university study. "Responsible body" status was closely linked with the radical aspirations of the Workers Educational Association before the First World War. Indeed they could fairly be regarded as part of the same democratic movement to open up higher education. This movement was cut short at the end of the war. Some historians of the universities have even interpreted the creation in 1919 of the UGC as a decisive victory of the university mainstream over these democratic insurgents - which adds to the irony of its present situation in which the UGC is being urged to recommend the abolition of "responsible body" status.

Between the wars the radicalism represented in the pre-1914 WEA and semi-institutionalized in "responsible body" status was displaced. What had begun as an activist experiment in the heart of the universities was subtly transformed into an essentially quietist operation on their periphery. Liberal adult education was depoliticized and immured in the administrative and financial ghetto of the modern extramural department. That was the price that had to be paid for the continuation of the direct financial support of the State.

Since the Second World War, the explosion of knowledge and the ever increasing professionalization of intellectual occupations that is its most prominent result have put liberal adult education in extramural departments at an even greater disadvantage. First, it has been cut off from the major developments in broader continuing education; much of which inevitably has been in vocational courses; second, it has been cut off from the prospect of a large expansion of continuing education.

Perhaps it is not the intention of the Government to single out the Open University for particularly harsh treatment. But that is the effect of its decision to freeze the 250m annual grant which the university receives from the Department of Education and Science. Perhaps the OU is simply being asked to take its share of the general squeeze on university expenditure because ministers and officials are ignorant or forgetful of the exceptional conditions that limit the university's financial freedom. But perhaps not. The Conservatives have a long tradition of hostility to the OU. In 1970 Mr Heath's Government almost closed it before it was properly open. Now Mrs Thatcher's Government seems to be pursuing a policy of political and financial neglect, perhaps justified by occasional episodes of low grade harassment. It is a very long time since a minister said anything nice about the OU and even longer since the DES showed any sensitivity to its particular financial needs. The threat from Government to abolish "responsible body" status is a direct result of this neglect.

national courses require close links with the practical world which are effectively forbidden by fears of the bad old radical days. Just how constricting are the political restraints on adult education was demonstrated by the rise and fall of the ACACE. The moment the advisory council seemed to be about to break the apolitical taboo it was condemned.

The second disadvantage is more serious. Because extramural departments are funded by a special grant from the DES they never have to compete with mainstream academic departments for attention and money. Because they never have to make much of a case, they have drifted dangerously far away from the main preoccupations of the rest of the university, which in turn is encouraged to consign liberal educational values to some conveniently dusty pigeonhole. Perhaps one reason for the inexorable specialization of undergraduate education is that the Tawneyite tradition has been allowed to opt out through the extramural system (except perhaps at Keele).

A third disadvantage is that the paraphernalia of "responsible body" status have encouraged the growth of unhealthy and unhelpful divisions in our view of continuing education, most prominently between an apolitical liberalism that can easily be dismissed as hopelessly impractical and a myopic instrumentalism that is easily dismissed as high-grade training. What we need is adult education that is a lot more practical and continuing education that is more critical and reflective.

Of course the difficulties of adjustment should not be underestimated. Extramural departments can hardly be expected to compete effectively overnight with the big battalions in science and engineering. There is also the danger that the full value of the present DES grant would not be added to the UGC grant, especially in the present phillistine political climate. But provided a reasonable period of transition is allowed and reasonable guarantees are obtained from the DES, the case for ending "responsible body" status in its present form is overwhelming.

Some will regard this conclusion as a betrayal. But it may be the best way to get back to the original intentions of "responsible bodies". We need to move continuing education, whether access courses, professional up-dating or liberal education, back into the centre of university life. That is the message of the UGC report. It is more important that the UGC (and later perhaps the NAB?) should establish a proper standing committee for continuing education than that the ACACE should be revived as an external development agency. Continuing education has been kept outside the walls for too long. It is time to come inside.

The OU in middle age

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Laurie Taylor



Has anyone ever heard of this chap Foucault? Come again, vice chancellor? I'm sorry, Professor Stebbing. FOUCAULT. F-O-U-C-A-U-L-T. Is he... erm... French, vice chancellor? Well, certainly sounds it. Michel. That's French for Michael isn't it?

I don't want to be in the slightest nationalistic about this, vice chancellor. Quite so, Doctor Grampling... But do we really want to hand an honorary degree to some chappie who may well use the occasion to go blathering on to the assembled parents about the wonders of existentialism or whatever the current fad is on the Left Bank? And there is the business of the lambs.

The lambs, Professor Stebbing? The French, vice chancellor. Oh I see. Yes, yes. Quite so. Well, shall we say "reject list" then? Definitely. Thank you. May we now move on to the last proposal which is from the department of English. Melvyn Bragg: writer and broadcaster. Now any strong views on this nomination? Television chappie.

Isn't he that... erm... slightly effete fellow? I don't think he's particularly effete, Professor Ransom. Is this the chappie who says: "It's nice to see you and nice to see you?"

"Nice to see you: to see you nice", is, I believe, the expression you're after, Doctor Grampling. No, it's not him, no. But looks like another for the reject list. Could we now go through the complete reject list, vice chancellor? Certainly. The full list with our reasons for rejection now reads: Michel Foucault - too French. E. P. Thompson - too political. Germaine Greer - too feminist. And Peter Swinnerton-Dyer - too obvious. While our short list of possible candidates is: Henry Moore, Harold Wilson, Mark Thatcher, Roy Jenkins and E. F. Sedgcombe.

Thank you, vice chancellor. Actually, I could perhaps push matters along by declaring a personal preference for Mr Sedgcombe. Not only is he a local man but he's done quite excellent work for the inland waterways. He is also a pleasant wayward, one might almost say, self-effacing man, which I believe fits him well for such an occasion.

I do so agree with you, vice chancellor. Unfortunately, however, the strongest evidence for Mr Sedgcombe's self-effacing character also constitutes an impediment to his present candidature. In what way, Professor Ransom? I have just recalled, sir, that we give him an honorary degree last

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V-Cs put tenure compromise to Sir Keith

by Ngaio Crequer

The vice chancellors will put forward their own scheme to weaken tenure for university teachers at their next meeting with Sir Keith Joseph, Secretary of State for Education and Science, if he will agree to drop his plan to abolish it altogether. The Committee of Vice Chancellors and Principals hopes to strike a bargain with Sir Keith: if he agrees to drop his determination that dismissal for redundancy should be included in individual contracts and permitted by university charters, they will try to push through reforms that significantly increase managerial power in universities.

Ideas being considered include: extending the probationary period to five years; making tenure more difficult to achieve; extending short-term contracts and reducing the retirement age to 60 - with the right to extend it in some cases.

The vice chancellors have told Sir

Models seek pay redress



There was a cover-up at Edinburgh and Glasgow colleges of art this week. Nude models refused to take off their clothes because of a pay dispute. They are seeking an increase of their present hourly pay of £2.50 to £3.

The models are also seeking improved working conditions, including a minimum temperature of 70 degrees in the studios.

Fletcher condemned over Hamilton

by Olga Wojtas

Scottish correspondent

The powerful Commons Public Accounts Committee is to condemn former Scottish Office minister for industry and education, Mr Alex Fletcher, over the sale of Hamilton College of Education.

The committee is to present its report on the sale to Parliament next week, following evidence that Hamilton was sold for £5m less than its potential market value.

Mr George Robertson, Labour MP for Hamilton, has called for the resignation of Mr Fletcher, now minister for corporate and consumer affairs at the Department of Trade and Industry.

He said: "Alex Fletcher was in charge of the Scottish Education De-

partment when the college was being sold and it was quite obvious to everyone even during that period that things were being mishandled".

The Public Accounts Committee will criticize the haste of the sale, and the fact that it was not handled by estate agents despite official guidelines. The college, axed in 1981 by the Scottish Office despite a widespread campaign to retain it, was sold to a private school and Millar Homes for £680,000, although it cost £1,700,000 to build in the early 1960s.

Mr George Paton, Hamilton's former principal said: "If it had been any ordinary person trying to sell a house, and they couldn't get what they knew it was worth, they would hold off until the market was better or try again in another way."

"I think the sale was rushed and

hunted and that speed was forced on the officials by the ministers."

There was strong feeling at the time of Hamilton's closure that a more obvious candidate if cuts were being imposed was Craigie College, in the constituency of Mr George Younger, Secretary of State for Scotland.

"The issue was so sensitive that ministers rushed to get it swept under the carpet as quickly as they could. I'm convinced it would have been too embarrassing for George Younger had the college been sold," said Mr Paton.

He added that he was particularly disturbed that Strathclyde Region had not been encouraged by the Scottish Office to take over the college, which could have been used for community education or the inservice training of teachers.

Education budget's share rises

by John O'Leary

Education will receive a bigger share of public expenditure according to Government plans published yesterday. While all spending is held constant, education will receive an increase of more than £140m.

Both universities and the public sector of higher education are given increased budgets in 1985 and 1986 despite falling enrolments in the second year covered by the latest expenditure White Paper. Science is compensated for expected inflation, with the Science and Engineering Research Council receiving an additional sum for international subscriptions.

Students numbers are expected to remain constant next year and then to fall in 1986/87. Full-time undergraduate numbers are down by 6,000 to 443,000 and postgraduate numbers by 1,000 to 40,000 in 1986/87. But, on the Government's present demand projections, this will still mean a rise in the participation rate for 18-year-olds to above 14 per cent.

Universities will receive an extra £33m recurrent grant next year, with further increases of £42m in 1985/86 and £30m in the following year, bringing their total grant to £1,410m.

The polytechnics and colleges are given an extra £15m in 1985/86 after losing ground in the wake of the National Advisory Body's cuts for 1984/85. Their increase is maintained in the following year.

In the commentary to the White Paper, the Government sets its main objectives for higher education as the maintenance of access, improved efficiency and economy in all sectors while maintaining standards, and a further shift in provision towards science, engineering, and technology.

The Government's Expenditure Plans 1984/85 to 1986/87, HMSO, £11.50.

Dancing the blues away

Cambridge University PhD students Victor Tybulevitz and Sheila Cookley lead the way in one of the more unlikely student crazes of the 1980s.

They have lived their way to the finals of the universities' ballroom dancing championships, which take place next week at Warwick.

Sixteen teams from 14 universities

will take part, with Oxford (which awards half-blues to its team) the favourites. Cambridge, where membership has shot up from 150 to 750 in six years, is thought to have the largest club but grants no honours largely because the separate men's and women's blues committees can't agree on how to treat mixed teams.

Continued doubt over Liverpool Polytechnic's finances this week forced the Council for National Academic Awards to retain restrictions on offers of student places for 1984/85.

A visit by a CNAAC working party scheduled for next week has been postponed and the position will be reviewed once the polytechnic's budget for next year is clear.

CNAAC sources said the academic plan submitted by the polytechnic earlier this year was "not itself in question. But it was not clear how it

could be implemented because of unanswered financial questions.

The later restrictions are lifted, the worse the position Liverpool will be in when recruiting students for the next academic year.

Dr Edwin Kerr, chief officer of the CNAAC, said: "We have not taken the easy option which would have been to cut off approval. We are taking a stage-by-stage approach working with both polytechnic and the authority to find a satisfactory solution." A final decision will be taken in April.

No merger no money, UGC tells Wales

The University Grants Committee has told two university colleges in Wales that unless they merge their engineering departments there may be no more money for the subject.

St Peter Swinnerton-Dyer, chairman of the UGC, wrote this week to the principals of the University of Wales, Institute of Science and Technology and University College, Cardiff, saying the only way to bring about a strong and effective base for engineering in Cardiff was for the two colleges to merge.

combine to form a single faculty of engineering.

The UGC would be prepared to assist with the cost of additional accommodation if it came into existence, and every effort should be made to overcome the difficulties of deciding where the faculty should lie.

Sir Peter wrote that the UGC had only given "the most tentative consideration" to what it would do if the will and consent of the two colleges was lacking.

But I have to say that, in the present and prospective situation of

severely constrained public funding of universities, the committee would not be willing to encourage any pattern of separate development which would commit it to the support of two overlapping engineering faculties in Cardiff.

He wants a decision not later than this summer as the committee would have to set aside building funds for engineering in Cardiff in 1986 or 1987. It would not take the risk of having building funds unused.

The creation of a single faculty was first suggested by the UGC in 1981.

Liverpool still restricted

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Letters to the editor

Seeking solutions to the nation's problems

Sir, - Although the "idea of a university" proposed by David Holbrook (*THES*, February 3) reads unfortunately like academic cant, the underlying concern about the dual crises of the nation and the universities is apt. To convince our masters and the people at large what the universities are for needs both more vision and a more pragmatic approach.

The universities should have three roles, two are old and one is new. The two old roles are of course teaching and the untrammeled advance of learning and knowledge by research. The new role is to address the problems caused by the growth of knowledge which has permitted mankind's activities to become much more extensive; interactive and interdependent.

As a result of the advance of knowledge, material resources are being exhausted at an alarming rate, energy supplies are uncertain, food is in short supply for many people, housing is

inadequate, the environment is being increasingly fouled, international relations are deteriorating and the means of defence are problematical, lawlessness is becoming a plague, national economies are collapsing, and all of these problems are being compounded by social unrest and the alarming rate of increase in the world population.

It seems we are approaching a débâcle. I agree with David Holbrook that the universities should accept some responsibility for the national decline, since one of the causes is the indifferent advance of knowledge and a failure to achieve a sane synthesis of ideas.

To avert the débâcle it is essential to mobilize all the powers of intellect and humanity in the universities to discover the solutions both in the short term and the long term to the human and material crises which face us.

The magnitude of this third task is awesome and it will be far more

challenging than those of the first two roles of teaching and the traditional egoistically based research. The two traditional roles will remain essential. The third pragmatic role will require attention to be directed to needs and values as well as to excellence in research.

Between them, the economists, humanists, lawyers, mathematicians, scientists, technologists and theologians in the universities can muster all knowledge in the service of man. This new vital role could be initiated by groups within each discipline discussing the problems and the contribution each can make to solving them, and then extending this approach to interdisciplinary studies.

A novel feature of the pragmatic role would be its highly interdisciplinary nature. New techniques of communication such as teleconferencing will be needed. Traditionalists like

David Holbrook reject the inclusion of the pragmatic role in the idea of the university, however, not consistently since, for instance, medicine is included. The pragmatic role is at odds with the traditional ivory tower idea of the university. The present crisis in university organization and financing is clearly caused by a lack of community appreciation of the ivory tower idea.

In view of the dire prospects for the nation, it is not unreasonable for the community to expect from the universities commitment of a pragmatic nature to solving the nation's problems and ensuring a future for the community. In return, the current withdrawal of community support from the universities will no doubt be reversed.

Yours faithfully,
PROFESSOR S. JOHN PIRT
Queen Elizabeth College,
University of London.

Sandwich courses

Sir, - I would like to comment on your report of my speech to the Education for Industry Society conference and the correspondence that this has provoked (*THES*, January 27 and February 2). These writers mistakenly assume that your report by Owen Surridge was accurate. It was not. Mr Surridge's claim that I described these courses as "second rate and a failure" is simply wrong. Similarly at no time did I refer to "second class institutions". Even in the terms of your own report these comments are inconsistent since you correctly report my saying, quite reasonably, that I was sceptical and had reservations about these courses.

Your quotation "why since it is regarded as the interface between education and industry has it caused friction on both sides" (sic) is a garbled version of a quite contrary point. My comment was that sandwich courses have often been seen as a way of dealing with the sometimes strained relationship that has been held to exist between higher education and industry. I then suggested that if sandwich courses really remedied this problem why did employers continue to make considerable use of graduates from full-time courses.

I was surprised that Messrs Davies, Kelly and Dorsman should question my comment about the concentration of sandwich courses in the universities. Kelly and Dorsman use the 1982 ASET Journal to claim that 22 universities run sandwich degrees. However, it is clear from the journal that in nine of these institutions the sandwich is no more than an optional period of work experience and is associated with just a handful of courses. Of the remainder, three universities account for 45 per cent of all university sandwich students and 97 per cent of all such students are located in just nine universities.

Leslie Davies describes traditional undergraduate courses (in engineering) as inadequate. Nevertheless, as I pointed out in my speech, the full-time sector still seems to be popular with students and employers whereas the sandwich courses that are looking fragile. Similarly it was pointed out at the conference that just 20 per cent of sandwich students are sponsored by employers although originators of the present expansion looked to a figure of 80 per cent. Furthermore, over the years course tutors have increasingly had to scramble for placements for their students. I would also suggest that the expansion of sandwich courses (and their diversification beyond engineering) owes something to the policy of the ATS establishing a separate identity for themselves rather than being just a response to a clear demand from employers.

Finally, your report also confuses what I said about integration. I suggested that many of the advantages claimed for sandwich graduates, such as better attitudes and motivation, could equally apply to full-time graduates after a year in work. The case for sandwich courses then rests on the belief that the sandwich year is a unique type of work experience. In practice this means that it is integrated with the degree course. Most of the research into sandwich courses has looked particularly at this issue of integration and the various reports have been consistently sceptical about the extent of its attainment.

Contrary to your report it was not my intention to denounce the whole sandwich system. Rather I think that the claims for sandwich courses have been exaggerated and that there is a need for a more realistic appraisal of the merits for and against.

Yours faithfully,
SUE E. ASHTON
ROSEMARY D. F. BROMLEY
GWYNETH M. DAVIES
Department of Geography,
University College, Swansea.

We suggest that women are not disadvantaged in the study of geography, like so many other aspects of life it involves upon the attitude of the individual.

Yours faithfully,
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ROSEMARY D. F. BROMLEY
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Some 22 authorities had their projects rejected and 48 were accepted. An AMA officer said there was no question of compromise. The proposals were totally unacceptable.

The TUC complained at the lack of consultation with interested parties in planning to implement the proposals, rather than the colleges and the practitioners of further education being treated as afterthoughts.

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DON'S
DIARY

THURSDAY

To the bank to pick up pesetas. On the tube to Heathrow write letters to colleagues about the libris of academic politics gleaned from external examiners yesterday, and avoid the duty-free shops by writing more letters. Smooth flight to Madrid, but the rushed connexion to Seville leaves me breathless. Met by José, who has been back over a week after spending three weeks with us in London, and drive to Córdoba through a eucalyptus-dotted landscape. Phone London to announce safe arrival, am introduced to *tapas* with local wine in the college bar.

FRIDAY

Walk to the University School for the Preparation of Teachers in the South Sector. Crossing the Guadalquivir, I look across to the skyline of the old city, a contrast with the new public housing around the university school. Excerpt for the shutters, the housing could be in the English Midlands or inner suburbia. Meet the staff informally, José interpreting, and discuss university politics: here its consequences of the new laws requiring university autonomy. A couple of hours are spent with my interpreter going over my talks for Monday and Tuesday. She is a delightful Norfolk woman who has lived here for many years. José takes me off for an orientation visit to the *centro ciudad*. Discussion from 4.00 to 6.30 of the preliminary results of José's study of the behaviour of teachers in the classroom, which he began after his first visit to London last year. Write a book review before bed.

SATURDAY

Walk down town, buy postcards for the family and secretaries, and take them to the counter before posting off. Meet José and Paco, who was also in London as part of the exchange scheme, and we explore the Mezquita/cathedral and the Jewish Quarter where I buy some small presents. We go to a bar renowned for its small pickled fish, and encounter a party of traditionally costumed student singers with guitars and bandurrias. We get a song just for the price of a joint.

MONDAY

Discussions on a personal research project with José, then attempt to collect my expenses cheque: 'matana' - it hasn't been signed by the appropriate treasury official. The main event of the day is the talk from 6.00-8.00 on the English education system and the way we prepare science teachers at our centre.

Using an interpreter is much smoother than I had anticipated, but I can't predict how long an address will take. Must shorten tomorrow's talk if I can.

TUESDAY

Go to the administration to collect my cheque. We arrive at the office, shut for one hour strike. José breaks the strike and I get my cheque. At 6.00 pm I describe the broad patterns of the masters degrees in education we offer to teachers. Interpretation goes smoothly again, but I find I'm conscious of my use of the passive construction, with many qualifying clauses. In questions, local current political issues are just below the surface, as my hosts think about what it would mean to interpolate such a degree into the Spanish system.

WEDNESDAY

Yet another fine warm cloudless day. Today's talk is about more theoretical issues and my interpreter and I spend a couple of hours going over it before a meeting with staff interested in computers in education. I'm no expert, but we talk about Paco's time at our computers in education unit, and I lead in some of the new technology being used. Paco's PhD supervisor is there too and I spend

the now routine time over *tapas* and a drink talking about his population genetics investigations, with José interpreting.

I have to cut out one section of the talk this evening as I find I'm not going to have enough time for questions otherwise. This evening's talk produces some deeper theoretical questions and we have to struggle with ambiguities in both Spanish and English education. Then to a restaurant with many of the seminar participants for an excellent meal - a whole beef fillet to myself, what extravagance, what enjoyment.

Then to a flamenco cabaret, the local expert comment critically on the minutiae but even I can see the major differences between the Sevillian and Cordoban styles - a matter of apparent freedom of movement versus very tight control of body position. To bed at 3.30 am, but not before agreeing to prepare, with the help of José, a description of our science teacher preparation programme for the delegate's newsletter to schools in Andalucía and to a press interview at the request of the director. Both academic political moves?

FRIDAY

The head of the biological sciences department shares my interests in learning from out-of-school sources, and we meet in the small local zoo. The noon meeting with the staff to discuss possible future collaboration is interrupted by the arrival of the journalist and photographer. As I had anticipated he asked for my opinion of the standards of Spanish education and I was able to sidestep the question. I had not predicted that he would pick up mention of our computers in education unit and the mathematics education research groups. So I found myself searching for examples from our regular seminars. I think successfully. Finish the collaboration discussions, and the director announces that he has arranged a working lunch with the delegate for Monday, 'to discuss things more formally'. In the evening begin report for British Council.

SATURDAY

Make my way to La Oficina, a strategically placed bar, for morning coffee, to meet the party that is taking me to Montilla to visit a bodega and for an outdoor meal. Struggle through the long newspaper article resulting from yesterday's interview. All the points are there, so the director should be satisfied, but the headline and focus of the piece is on micro-computers and the mathematics education research.

At lunchtime I help prepare the fire and watch with interest as the paella is made in an enormous pan. We all eat standing around the dish, and retire replete. José takes the guitar and dancing starts.

MONDAY

Complete the work on the article for the Andalusian newsletter, and look at the draft of a paper the geologist on the staff is preparing for a conference in April. He has prepared a very interesting town trail concentrating on 'geology' of Cordoba's monuments and historic buildings. The chemistry staff show me some very nice games for helping pupils build their understanding.

Lunch is in a private room on the third floor of a grand restaurant. Four hours later the delegate departs, after a 'fruitful exchange of views'.

TUESDAY

Last minute negotiations on collaborative details, including a visit in March by another of our staff. Then to the airport to see José and Paco off. The head of department also comes and we spend the time discussing how we can both benefit from some studies she is planning to do in the 80s.

The plane is two hours or more late. I'm fogbound in Madrid. Resolve to concentrate on my Spanish lessons, and spend the journey to Heathrow preparing a discussion paper for Friday on multicultural science education, and thinking about the meeting at 8.30 tomorrow morning about our coming merger university politics for real.

A. M. LUGG
The author is professor of curriculum studies at Colyton College.

Overseas fees pledge 'broken'

by David Jobbins

Ministers have been accused of breaking pledges made only last November in Delhi to consult Britain's Commonwealth partners before making any further significant increases in overseas student fees.

In a reaction to the University Grants Committee's recommended fee levels for 1984/85, the UK Council for Overseas Student Affairs says that increases of up to 9.2 per cent - about twice the rate of inflation - would bring universities extra income of about £10m next year.

The secretary, Ms Gail Taylor, pointed out that this amounted to about two thirds of the annual value of new and reallocated Government

funding for overseas students. It seemed to be a case of robbing Peter to pay Paul, and was difficult to justify in the light of ministers' expressed intention to develop a coherent and constructive policy.

In Delhi Mrs Thatcher added her name to a communiqué which emphasized the importance of strengthening the process of dialogue and consultation among Commonwealth countries on the major issues affecting student mobility - including fees.

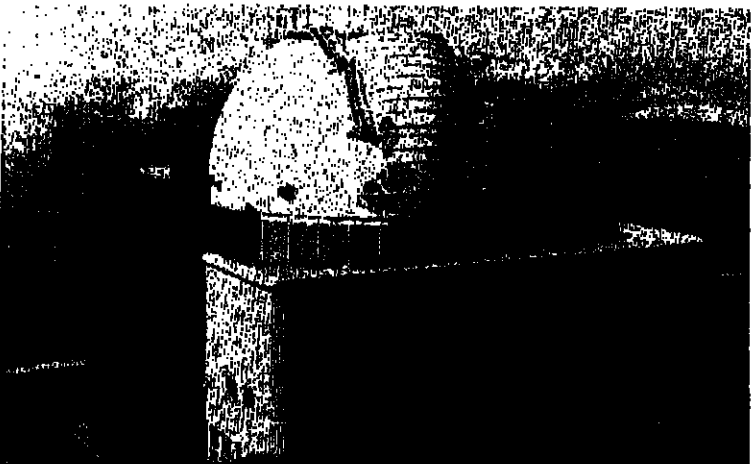
But, Ms Taylor said, there was evidence of lack of consultation between the different ministries within the UK over fees policy. The Foreign Office had made its own projection for the number of overseas students who would benefit from the so-called Pym

package next year in the absence of any information on the implications of fee levels.

'If there is not that level of governmental control and internal consultation, it does not bode well for consultations within the Commonwealth,' Ms Taylor said.

'It is hard to reconcile the facts. Government has made policy commitments in favour of overseas students on the one hand and freed the UGC to recommend fees at whatever level they wish on the other.'

UKCOSA predicts that students who do not benefit from Government schemes will have to find up to £650 more in fees and that this will exacerbate the decline in the number of students from poorer developing countries.



British astronomers this week took the first star photographs with the 2.5 metre Isaac Newton Telescope at its new location 8,000 feet up on La Palma in the Canary Islands. The 2.5 metre instrument, originally built at the Royal Greenwich Observatory in Sussex, is one of three British telescopes at the Science and Engineering Research Council's new observatory on La Palma.

Williams unveils the SDP's brave new plan

by Biddy Passmore

A bold new plan to give everyone over 18 the right to three years' further education has been set out by Mrs Shirley Williams, president of the SDP and a former Labour education secretary.

Her plan is more ambitious and more specific than anything set out in the SDP's pre-election paper on education and training and much more generous than Labour's manifesto pledge of a one-year adult education entitlement for all. (The Alliance manifesto simply promised increased access to higher education.)

It is understood that Mrs Williams has not costed the plan in detail but believes the cost would be much lower than might be expected because of continuing high unemployment.

Speaking at the first Alliance education conference at Halesowen tertiary college in Dudley at the weekend, Mrs Williams defined the central problem of higher education as 'how to save the

good and put it in touch with the modern world'.

It was vital to get away from the norm of three or four years of higher education between 18 and 21, she said. She was coming to the view that grants should not be given to students unless they had spent some time first in the world of work.

'We shouldn't let them graduate at 21,' she said, 'and above all, we shouldn't let them go straight on into teaching.'

From 16 to 18 there should be a general system of educational maintenance allowances to keep far more young people from all classes in the education system. After that, all should have an entitlement to three years of higher further or community education, to be taken when it suited them on a credit basis.

Polytechnics and universities must be turned into something much more like community institutions, she said. (TES)

Colleges learn art of communication

The Council for Educational Technology unveiled a prototype audioconferencing network for use by higher education institutions. PACNET, the Plymouth Audioconferencing Network, will serve staff and students at colleges in south-west England.

The project is also backed by the Open Tech Unit, British Telecom and Plymouth Polytechnic and will be based at the polytechnic. The system can provide voice contact between 18 different locations in three separate meetings. Later equipment will permit transmission of writing between conference participants, also using the phone system.

The uses envisaged by the sponsors include distance learning for widely scattered students, keeping tabs on students on industrial or teaching placements and tutoring courses held at more than one centre. Large groups can use the network through loudspeaking phones installed at Plymouth Polytechnic, Plymouth College of Art, Exeter and Cornwall Col-

New subject area open for study

Details of the new Open University course in adult education show how it will keep pace with growing participation and provision at national and international levels.

The university is offering the course, Education for Adults, as a third level unit of its undergraduate curriculum, but it is also available as part of the associate student programme.

The course will examine local and national policies, practices and innovations. It will also look at research in the area and study experiences abroad. Accompanying the course material will be eight television series-debates with learning in groups. Another looks at the experience of Wisconsin University, which adopted the slogan: 'The boundaries of the campus are the boundaries of the state.'

Among the radio broadcasts, one deals with unemployment and the role of the Manpower Services Commission, while another examines adult education provision in Russia. The course begins this month and will

Survey shows danger to youth scheme

by Patricia Santinelli

Withdrawal by local authorities from the Youth Training Scheme would seriously endanger off-the-job provision, because further education authorities carry out half of all such training.

This is revealed by a Manpower Services Commission survey carried out last October with the help of the Large Companies Unit, which was being presented to the Youth Training Board today.

The survey shows that further education colleges carry out off the job training (each YTS trainee has to undergo a minimum of 13 weeks) for 3,110 schemes compared with training for 2,945 schemes carried out on sponsors' premises.

The colleges also carry out training for 2,274 Mode A (employer-based) schemes, compared with 2,090 on sponsors' premises. In addition they are responsible for training for 563 Mode B1 schemes, those run largely by voluntary organizations and some 266 Mode B2 schemes, run by local authorities.

The survey shows that Mode A schemes form 73 per cent of the Youth Training Schemes, Mode B1 18 per cent and Mode B2 9 per cent. Figures also show that, contrary to reports, private trainers represent only 7 per cent of managing agent/sponsors of Mode A schemes.

The Youth Training Board was being asked to re-examine its role and future at today's meeting following the failure of a deputation this week to convince Mr Peter Morrison, Minister for Employment, that the Government should rethink its plans to cut down Mode B1 schemes.

The deputation led by Councillor John Pearman, vice chairman of the Association of Metropolitan Authorities' education committee told Mr Morrison that such a major upheaval was far too early in the life of YTS.

It pointed out that a reduction in Mode B (community-based) schemes would narrow the choice for young people and that such schemes were vital in areas of high unemployment, while their closure would mean wasted investment and a loss of experience and skills.

The decision to cut the schemes from 80,000 to 70,000 was against the advice of both the Youth Training Board and the MSC commissioners.

Mr Pearman said: 'The minister seemed quite unmoved by our detailed evidence and the implications of what we proposed. This decision is extremely damaging coming as it does at a time when relations between local authorities, central Government and the MSC are at a particularly low ebb.'

'When the board meets we shall be asking it to take a long hard look at its role and future.'

The charity Youthaid revealed this week that a high quality YTS scheme in Doncaster is facing complete closure by the end of March, even though school-leavers joined it as recently as January for a 12-month training course.

Metro Action, which runs the scheme has been going for five years and concentrates on community building-work. MSC officials have given no reason for closure, other than the need to follow ministers' orders and reduce the number of community project

Scotland retains travel grants

by Olga Wojtas
Scottish Correspondent

Scotland has broken ranks with the rest of Britain over student travel awards. Mr George Younger, the Secretary of State for Scotland, has announced there will be no change in the present system under which students claim reimbursement.

Two weeks ago the Government decided to introduce a flat rate travel award system for English and Welsh students, which will make administrative savings.

The Scottish Office was known to be unhappy about changes to the present system since claims in excess of the national £50 travel award in the student grant are much higher in Scotland. Forty per cent of all Scottish students live at home, and many make long daily journeys to universities and colleges.

A particularly high number of students travel daily in the west of Scotland, where both Mr Younger and Mr Allan Stewart, the Scottish Office

minister for industry and education, have constituencies.

Travelling expenses are also high for students from the islands and other remote areas. They are reimbursed for travel at the beginning and end of term. If a flat rate had been introduced in Scotland, more than 10,000 students would have faced a cut of up to £1,000.

The National Union of Students Scotland has waged an 18-month battle against any change in the travel award system, highlighting the issue at every meeting they have had with MPs. Students sent 30,000 postcards to MPs urging them to retain the present system.

The Scottish Secretary has also announced a number of other changes which will bring Scotland into line. However, Mr Younger has announced that the extra year's grant for students who transfer courses after more than a year's study is to be axed.

Edinburgh University students rejected re-auction of the NUS last week by 3,334 votes to 1,439. One reason was the £45,000 it would cost the student body.

'Rough justice' shown

by David Jobbins

Dramatic evidence of the extent of 'rough justice' some students will suffer when ministers halt reimbursement of travel costs has emerged in a survey of local education authorities.

Out of 104 authorities, only seven were able to provide the National Union of Students with a breakdown of claims in excess of £50, in itself regarded by the NUS as evidence of the lack of information on which ministers have reached their decision.

Of those, between 27.5 per cent and 54 per cent of mandatory award holders claimed more than £50 above the national £50 included in their award. This would bring many of them up to and beyond the levels of

flat rate payments ministers have in mind.

Three authorities - Bexley, Croydon and Gwent - had award holders claiming more than £1,000 in reimbursement of travel costs. The highest was a student in Croydon who received £1,192. If ministers' favour option of a differential of £100 for students away from home and £160 for home based students was adopted, this student would be either £1,092 or £1,032 a year worse off. If the other option of £110 for all was chosen the loss to the student would be £1,082.

Almost 200 students from the authorities who responded reclaimed more than £400. The NUS and the Labour Party are pressing for students with costs higher than the flat rate should continue to be able to claim.

Cash plea for new teacher training plan

by Patricia Santinelli

University heads of education departments and lecturers warned Sir Keith Joseph this week that unless extra resources are provided his teacher training initiative could come to nothing.

The University Council for the Education of Teachers and the Association of University Teachers have told the Secretary of State for Education and Science that although they welcome the proposals contained in his draft circular on teacher training, their implementation will create significant extra costs which have not been taken into account.

The draft circular on teacher training, to which interested parties had until today to respond, was issued by the Department of Education and Science in December. It recommended the setting up of a council for the Accreditation of Teacher Education and new criteria against which all teacher training courses would be tested. It made no mention of extra resources but a covering letter suggested that funds might be redeployed from other areas.

Both UCET and the AUT are seriously concerned that this could mean a reduction of support for in-service education or for educational research.

UCET says such action would inflict much greater damage to the system than any benefit which might accrue from the developments envisaged, with proper resources the quality of teacher could be improved, without them there would certainly be a deterioration.

UCET stresses that apart from the extension of the PGCE to 36 weeks, three other areas will involve considerable expenditure. These are increased teacher participation, staff exchanges

Brunel takes charitable approach

A new approach to meet the needs of charities and other voluntary organizations is being launched by Brunel University at Uxbridge.

The university has been involved in organising short courses for charity-based staff since 1978, but it is to offer a full-time one-year option as part of a well-established MA course in public and social administration.

Students will be able to study the social policy context of their work in voluntary agencies and acquire skills to tackle everyday organizational problems. The option will be open to graduates and people with equivalent qualifications, and may be taken on a part-time basis over two and a half years.

Dr David Billis senior research fellow at Brunel, and director of a university's programme of research and training in the voluntary sector: 'We expect that the benefits of the new course will extend well beyond individual students, to their agencies and to the voluntary sector as a whole. The sector deserves its own reservoir of trained managers and practitioners.'

Courses full

All primary and middle schools postgraduate education courses starting this autumn are already full, according to figures released this week by the Graduate Teacher Training Registry which show that there were more than 17,000 applicants for all PGCE courses on January 1.

In addition courses for secondary teachers in social studies and some minority languages are full, but institutions still want to recruit applicants in business studies, chemistry, computer studies, craft design and technology, home economics, mathematics, phy-

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University Finance: An International Seminar

8 - 20 July 1984 in Oxford

The seminar will examine the practices of resource allocation to and within universities, particularly as they affect the senior university financial administrator. Formal presentations will be made to the seminar by senior administrators who will discuss their own use and experience of particular methods, and by academics whose studies and knowledge are relevant to the allocation of resources within universities. The three main themes of the seminar are: the allocation, use and control of funds within the institution, and problems involving reconciling competing demands on available resources; measuring the effectiveness of financial administration and management in universities, and government arrangements for, and methods of, university funding (including the role of the university).

The Director of Studies will be Mr William Hyde, Secretary of the Chest in the University of Oxford.

The seminar is intended for senior staff concerned with university finance, including bursars, finance officers, accountants, financial planners and their deputies.

Fee £615 (Residential).

Effective Teaching in Higher Education: An International Seminar

26 August - 7 September 1984 in Exeter

This seminar will consider new methods for effective teaching in higher education - those which are the products of technology and those (often the most significant) which grow from a deeper understanding of how students learn. Its aim is that course members will be able to introduce new and more varied ways for students to learn. Course members will be encouraged to contribute to discussions on the techniques and strategies considered so that experience from many parts of the world can be shared. There will also be a considerable workshop component.

The Director of Studies will be Dr Donald Bligh, Director of Teaching Services in the University of Exeter.

The seminar is designed for senior academic staff, heads of departments and college principals in universities and other institutions of higher education who have some responsibility for, or interest in, ways of improving the effectiveness of learning and teaching in higher education.

Fee £595 (Residential).

University Administration

2 - 14 September 1984 in Leeds

The course is designed to give top and senior university administrators the opportunity to think, talk and reflect with others on the significant issues of the time as they affect the day-to-day management of their institutions. Themes to be discussed will include: a comparative study of the development of universities and their administrations in the twentieth century; the relationship between universities and government in developed and developing countries; and problems in individual universities in relation to planning of resources, financial control, industrial relations, staff development, and the university and its immediate community.

The Director of Studies will be Mr J J Walsh, Registrar in the University of Leeds.

The course is intended for senior and top university administrators. These include executive heads, Kanzlers, secretaries-general, secretaries, registrars, bursars and deans.

Fee £795 (Residential).

The Future of Higher Education: An International Seminar

9 - 21 September 1984 in London

This seminar for policy makers and senior administrators in institutions of higher education and national and local governments will use the reports of the enquiry into future prospects for British higher education recently completed (SRHE - Leverhulme) as a background for examining the underlying causes of the decline in the political priority of higher education in many countries and considering how higher education systems and institutions can cope with the difficult economic and political circumstances that lie ahead. During the second week visits will be made to institutions in the London area.

The seminar will be directed by Professor Gareth Williams, Professor of Educational Planning at the University of Lancaster, who was Director of the SRHE - Leverhulme enquiry.

The seminar is intended for policy makers and senior administrators in universities and other institutions of higher education and for senior officials from national and local departments of education and educational agencies.

£795 (Residential).

Further information and application forms can be obtained from your local overseas Representative of The British Council or from Courses Department, The British Council, 65 Davies Street, London W1Y 2AA.

Please quote reference THES/84.

Goldsmiths' 'must keep options open'

by Maggie Richards

The academic board of Goldsmiths College, London, has urged its governors to seek school status, in order to facilitate a merger with Queen Mary College.

But to keep its options open, the board has also suggested exploratory talks with the Inner London Education Authority on its proposal to create a polytechnic in south-east London by amalgamating Goldsmiths' with Thames Polytechnic and Avery Hill College. The aim would be to provide a three-tier institution allowing stu-

dent entry at all levels.

The academic board has also ruled out a third suggestion that Goldsmiths' should be linked with the Polytechnic of the South Bank, though its meeting last week did not positively endorse the plan's feasibility.

In seeking school status from London University, the academic board felt the move would be in keeping with the historical development of the college. Goldsmiths' has been associated with London University for 80 years and its emergence as a school of the university is seen as a long cherished ambition, dating back to the 1920s.

The board also considered that school status and the merger with QMC would allow the firmest foundation for academic development. It would also provide greater academic freedom through a new legal and constitutional position within the university framework.

But the board was anxious that Goldsmiths' longstanding traditions of involvement in adult and continuing education should remain a fundamental part of its work and that it should retain its strong links with the community.

Now the recommendations of the

board will go forward to a meeting of the delegacy, Goldsmiths' governing body, next Tuesday. If accepted they will be incorporated in the delegacy's report to the London University senate on the future of the college.

The delegacy has already received a report from a joint planning committee, chaired by Dr Richard Hoggart, warden of Goldsmiths', and Sir James Menter, principal of QMC, strongly recommending a merger. A weaker academic association between the two colleges would "pose severe administrative and logistic problems" with no financial benefits, it said.

Merger bonus on offer

by Ngaio Crequer

London University will make a special payment to institutions as an incentive or reward for merger. The award - 5 per cent of a department's academic salary cost - will be paid for two years.

Both the "donor" and "host" institution will receive the award, and a further 2 per cent will be paid when the merger is completed. The same principles will apply for both departmental or whole institutional mergers, but the cash will not be inflation-proofed.

This is the latest guidance given to schools by the court, in the light of claims made for mergers and transfers in the London restructuring exercise.

The court will also meet "reasonable authenticated direct costs", including legal, professional, administrative and secretarial fees, in full. The money will come from restructuring grants made by the University Grants Committee for 1983 and 1984, plus money set aside by court from recurrent grant.

Additional travel or house removal costs will also be met in full, though subject to approved scales and scrutiny by officers.

The court also recognizes that there may be circumstances when short-term financial help is necessary for extra staffing where departments are being dispersed. The court will consider making limited transitional grants for more than two years.

Host schools would be expected to provide accommodation by optimizing existing space. New capital projects were only a last resort.

One aspect of restructuring would be the phasing out of special bridging grants made to University College, Queen Mary College and Queen Elizabeth College, to maintain well-founded science departments during the move towards concentrating science on five sites.

Gissagrart guide aids researchers

by Jon Turney
Science Correspondent

Building a research career now depends less on finishing the current project than composing the next grant proposal. To make sure staff get plenty of practice seeking funds, Liverpool University now provides a research calendar consisting entirely of deadline dates for different potential sponsors.

The calendar, which graces the front of the university's research report for 1983, lists 25 dates for the dogged grant swinger's diary between October 1983 and September 1984. And impoverished investigators in less enterprising institutions should note that nearly half the deadlines have already passed.

There is just time to meet the British Academy's cut-off on February 22, though applicants who miss that still have a chance with the Royal Society on March 1. After that, there's a bit of a wait before the Agriculture and Food Research Council on April 1. The Science and Engineering Research Council appoints the same day, presumably to mark the fiscal year rather than All Fools Day, but the Economic and Social Research Council unaccountably waits a further fortnight, until April 15.

Two further points to note, for newcomers to the grant merry-go-round. Grant committees, like academics, cultivate other concerns in the summer, when opportunities for winning cash pledges are few.

Liverpool University, as its research report records, attracted more than £6m in research awards last year, all channelled through its research committee. This means Liverpool applicants have to prepare proposals two weeks before each deadline, for processing by the university research office, but the results appear to repay the effort.



Nuclear milk round: Liverpool and Manchester student Campaign for Nuclear Disarmament groups picketed recent job interviews in Manchester by the Government's Atomic Weapons Research Establishment at Aldermaston. The interviews were moved off the campus to the city's Grand Hotel, after similar actions last month at Liverpool University and University College, London.

Burnham readership rules 'are stifling poly research'

Restrictions on appointments of readers are weakening the ability of polytechnics and colleges to mount effective research programmes, according to the college lecturers' union.

The National Association of Teachers in Further and Higher Education blames combination of the restrictions imposed by the Burnham report structure on readerships and the effect of the current financial climate on local authorities for the lack of a research management role in many institutions in the public sector.

Many authorities are failing to take advantage of the limited opportunities Burnham affords, Nafhe says.

The union, responding to a policy statement by the Council for National Academic Awards on research and related activities, takes the opportunity to record its longstanding concern that research councils have tended to direct the bulk of their funds to established research centres at the

expense of others, especially in the public sector.

Public sector institutions are permanently disadvantaged as a result of a policy which fails to recognize the key secondary role of research in supporting teaching throughout higher education, Nafhe says.

"In any event there is little doubt that funding tends to go to departments with demonstrated records of success and to projects with easily identifiable objectives and potential outcomes. These factors are not necessarily the best predictors of the respective merits of future research work."

The union, welcoming the CNA's more public stand on quality issues in recent years, says it believes that development of more positive policies on research by the National Advisory Body on public sector higher education could contribute to "a breaking of the impasse" on resources which represented the fundamental issue on research policy.

Racial bias at council

An Ethiopian typist working for the Economic and Social Research Council was the victim of racial discrimination, an industrial tribunal has found.

It awarded £200 compensation for injured feelings to Ms Seble Hallu after she complained during a six-day hearing last year of racially-motivated harassment by her typing pool superintendent, Ms Janet Murray.

Ms Murray denied throughout that she had treated Ms Hallu, the only coloured typist in the pool, less favourably than her colleagues and said she was not prejudiced against black people.

The tribunal said in a reserved judgment it was not satisfied with Ms Murray's explanations, that she had subjected Ms Hallu to less favourable treatment and found that the then Social Science Research Council had engaged in unlawful race discrimination.

Union withdraws disruption threat

The Educational Institute of Scotland has withdrawn its threat to disrupt the work of the Scottish Business Education Council later this month. But it is not yet certain that a lasting peace can be achieved.

The EIS was protesting against SCOTBEC's proposal to offer its courses and examinations to private organizations. It has now been agreed by SCOTBEC setting up a joint working party with the Scottish Technical Education Council.

The EIS will also join the working party, and is prepared to accept the involvement of private organizations as long as further education staff teach and mark the courses. But SCOTBEC commented this week: "There's no way that's going to be possible."

What was the crime of that earnest bunch of sycophants whose efforts to plant helpful questions to the Prime Minister on Tuesday last week led to such a diverting pantomime - if one which will scarcely merit a footnote in the most voluminous history of the Thatcher years?

For most parliamentary professionals the sin was not the act itself, but getting caught. "We never put out plans on paper," one former Parliamentary Private Secretary to a Labour Prime Minister told me, while the Labour benches chanted in unison to Sir Edward Gardner's near word perfect repetition of his script.

"It would have been cant to have convicted for any other 'misdeed' for the planning of questions to go to a part of the accepted practice, of both sides of the House."

A principal duty, for example, of any PPS of a departmental minister is to arrange for friendly colleagues to put down questions to that minister. It involves no more imagination than a signature. Both the question, and the answer, are ready prepared. But the system serves an important function of enabling ministers to get information and announcements into the parliament.

PARTY LINE

Ask a simple question . . .

tary record without the need for an oral statement.

As for the Opposition, on any day you will find a front bench spokesman, with a sheet of yellow question forms in hand, creeping round the tea room looking for likely lakers. I confess myself to taking part in a regular monthly conspiracy to ensure that the oral question time for which I am a spokesman - environment - is helpful to us, and not the Government. This involves a meeting to decide which issues we wish to see raised, and then a trawl of colleagues to persuade them to put down a question - and, more important, to put them down in time, since to have any chance of success in the ballot they have to go down before 4 p.m. on the day two weeks before they are due for answer. (Of around 100 put down, only 20 or so will receive an oral answer.) As a Treasury spokesman, I often used to have to promise briefing for

supplementaries - almost a script - as the price for an original question on an allegedly technical matter like the money supply or the PSBR. But it is not exactly a secret conspiracy. Government members watch while we do it, knowing that it is a job that all oppositions have to do. As Joseph Stalin once remarked: "Once the political line is determined, organization counts for all."

And slowly but surely, the Labour party is again discovering the virtues of organization and leadership. But while last week's pantomime may itself not merit a footnote, the occasion was, in my judgment, of greater symbolic significance than was perhaps realized. It marked, for me, a further change in the morale of the Government, and of the Opposition.

For all the chat and synthetic ease, the notion of this little band in going to the lengths of actually briefing and rehearsing their sup-

plementaries did go beyond accepted practice. That is what I meant when I said that the planting of questions is accepted - but up to a point. Beyond that point, it is not accepted. Briefing, a plea for help! "Soft balls", is one thing. Actually revealing the exam question is quite another - especially in Prime Minister's questions. The very brevity of the occasion - just 15 minutes twice a week - requires that it should be relatively spontaneous if it is to fulfil its function, which is not that of seeking information, but of testing the leadership of the Prime Minister. Breaching an unwritten "accepted practice" is trivial enough in itself. The significance of the occasion lies in the fact that the Conservative benches felt it necessary to do so.

During the first Thatcher Government - when they were up and we were down - Conservative back benches instinctively knew what

issues were going to help the Government. They did not need a script. Even during the depths of the recession - in 1980 and 1981 - when factories were closing down daily, and manufacturing had collapsed faster and further than in the great slump of 1929-31 - if all else failed, then Labour could be relied upon to provide ammunition for Thatcher to use on us. It was we who used to have the huddles of despair, after yet another flat-footed display from our leadership at Prime Minister's questions, about the need to organize.

It is the same error that the Thatcher side now makes. Every problem which the Government faces is attributed to presentation. It's not the message that is wrong but the medium, and the very need for scripting shows that there is an uncertainty, an insecurity settling in, which in time can be all pervasive and all corrosive. As a senior Cabinet minister in the last Labour government told me while I was peddling some more parliamentary questions: "the other day, once a Government starts to go down, it is very difficult to recover. And he should know."

Jack Straw

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Sir Roy Marshall, vice-chancellor of Hull University, cuts the turf at the Newlands Centre a high technology development aimed at improving links between industry and academics. The project is a joint scheme by Hull University, the city council, and English Estates, the Government's property development agency. Also in the picture are (from left to right) Mr John Derbyshire, regional estates manager for English Estates, the mayor, Councillor Louis Pearlmann, and Mrs Rita Pearlmann.

Where next year's UGC cash will go

The following is the University Grants Committee distribution of recurrent grant to the universities for 1984/85. The total amount has been reduced to £1,123 million from the £1,265 million announced in November because the UGC is withholding money for rates, redundancy compensation, new blood posts and other minor categories.

UGC GRANT DISTRIBUTION FOR 1984/85 ENGLAND

University or College	Recurrent Grant £m, 1983/84 figures in brackets
Aston	13.85 (13.64)
Bath	12.28 (11.89)
Birmingham	35.48 (34.31)
Bradford	13.83 (13.64)
Bristol	27.38 (28.34)
Cardiff	12.28 (12.04)
Cambridge	40.71 (38.24)
City	10.57 (10.23)
Durham	16.50 (16.14)
East Anglia	13.82 (14.06)
Essex	7.81 (7.59)
Exeter	14.57 (14.19)
Hull	13.84 (13.33)
Leeds	8.01 (7.89)
Kent	8.93 (8.59)
Lancaster	12.80 (12.52)
Leeds	39.90 (38.80)
Liverpool	18.90 (18.31)
Liverpool	35.48 (34.45)

London Graduate School of Business	1.83 (1.76)
London University	220.02 (218.43)
(of which Imperial College)	(26.09) (27.29)
Loughborough	17.17 (16.89)

Manchester Business School	1.07 (0.99)
Manchester	43.95 (42.95)
UMIST	18.28 (17.83)
Newcastle	29.84 (28.72)
Nottingham	25.74 (24.90)
Oxford	42.08 (40.82)
Reading	17.85 (17.33)
Sheffield	11.98 (11.89)
Sheffield	30.16 (28.25)
Southampton	23.25 (22.39)
Surrey	12.19 (11.95)
Sussex	13.21 (12.77)
Warwick	15.33 (15.74)
York	10.46 (9.97)
Total	989.32 (982.13)

Wales	
Aberystwyth	9.80 (9.31)
Bangor UC	10.43 (10.18)
Cardiff UC	16.23 (15.84)
St David's Lampeter	1.88 (1.76)
Swansea UC	12.63 (12.31)
Wales National	
School of Medicine	6.22 (5.85)
WUIST	8.03 (7.88)
Wales Registry	2.11 (1.89)
Total	67.11 (66.22)

Scotland	
Aberdeen	21.04 (20.83)
Dundee	14.13 (13.71)
Edinburgh	41.78 (40.16)
Glasgow	41.10 (39.77)
Heriot-Watt	8.82 (8.69)
St Andrews	10.71 (10.47)
Strirling	7.71 (7.62)
Perth	2.45 (2.11)
Perth	167.87 (162.98)
Overall total	1,123.30 (1080.30)

Scottish pair complete the UCCA ranks

by Olga Wojtas
Scottish Correspondent

Glasgow and Strathclyde are poised to become full members of the Universities Central Council of Admissions, the last two universities in Britain to do so.

Both have run a system whereby students can apply directly without going through UCCA. They attract a large number of local students. But a Glasgow official said applicants were increasingly safeguarding their options by applying through UCCA, which gave them the opportunity to apply for five universities. More than 80 per cent now used UCCA, she said.

Aberdeen University, which had also retained direct entrance, became a full member of UCCA two years ago. The move will be expensive for the two universities: while direct entrance cost £3, an UCCA entrance costs £15. But there is little doubt that Glasgow and Strathclyde will join. Both senates have proposed the move, and Glasgow's court was expected to approve it this week, while Strathclyde's court meets later this month. UCCA has rearranged the proof reading of its handbook so that Glasgow and Strathclyde can be included once the court approve the decision.

Union resists training move

The Scottish Further Education Association has warned the Scottish Education Department not to extend new training for young people to private agencies.

The Scottish Office will launch its 16-18 action plan in August, replacing existing courses with a wide range of 40-hour units. The SED plans to allow private training agencies access to these units. The association has also written to all directors of education in the Scottish regions and all education committee convenors urging them to oppose the SED move. The SED has warned that its members may withdraw from developing the units and acting as examiners. "It is their resources and their employees who are being used to develop these modules," said Mr Graham Alison, general secretary of the SFEA.

"We take a dim view of all this time, effort and finance going into modules which at the end of the day will be made available to private training agencies."

Man in power

Dr James Munro, chairman of Scotland's Consultative Committee on the Curriculum, has been appointed chairman of the Manpower Services Commission for Scotland.

Flowers warns of threat to research

by Jon Turney
Science Correspondent

Undue selectivity in research funding could destroy the most innovative research in the universities, Lord Flowers, chairman of the Committee of Vice Chancellors and Principals, told the House of Lords last week. He was speaking in a debate on last year's joint report from the chairman of the Advisory Council for Applied Research and Development and the Advisory Board for the Research Councils. A number of other eminent scientific peers endorsed the general argument for a small country to make selective funding decisions put in the report.

However, Lord Flowers was anxious that this should not go too far. He said the universities would be considering the suggestion that the University Grants Committee should earmark a portion of its block grant to each institution for research.

"But it must not be forgotten that the purpose of dual funding is precisely to allow for the development of research which has not yet emerged," he said.

On strategic research, Lord Flowers said he hoped the recommendations of Sir Ronald Mason's recent study for the ABRC of research commissioned by government departments would be considered very seriously by the Government. He said he was particularly

concerned for strategic areas of the earth sciences, for materials science and for research on land use and conservation.

Opening the debate, Lord Sheffield stressed that more cash was needed to bridge the gap between pure and applied research. "There may be a belief that shuffling the pack and redistributing some of the cards, without any increase of resources, will help to resolve some of these difficult problems - that it can be done with mirrors," he said.

Lord Lucas of Chilworth, replying for the Government, made it clear there could not be any commitment to increase funding for research. And he rejected calls for the Government to take the lead in devising a national strategic plan for technology.

Dr Jeremy Bray, MP, the new Labour spokesman on science and technology, said last week the best way for the scientific community to seek a wider audience. He told a seminar at Sussex University that in spite of the attention given recently to details of science policy, "much of the debate has treated science and technology as a closed system, with the rest of the world regarded with varying degrees of exasperation".

He argued that public spending on science, an area he generally found healthy, should be increased.

Three new reports from Her Majesty's Inspectors Birmingham Prison regards education as 'peripheral'

A dismal picture of the education service provided at Birmingham Prison, emerges from one Inspectorate report.

No more than 10 per cent of inmates were participating in education, with as little as 30 to 40 per cent of the planned programme taking place. Senior management also viewed education as a peripheral activity in a penal establishment with a transient population.

The prison houses men awaiting trial or sentence, convicted men pending transfer to training prisons and those finishing their sentences. Nearly 1,100 inmates are confined, often three to a cell, in a nineteenth century building designed to take 600. The prison is undergoing redevelopment, but this will last several years.

"Senior management within the prison see education as peripheral to their principal functions. Most prisoners spend 23 hours out of 24 locked in their cells," says the report.

It also criticizes the equipment available, much of which is old and unserviceable or in need of maintenance.

Staff hindered by uncertainty

Uncertainty over student recruitment stemming from fluctuating training budgets and scarce grants make it difficult for staff at Nene College, Northampton, to plan the two-year Certificate of Qualification in Social Work course, according to Her Majesty's Inspectorate.

But these and other difficulties are generally overcome, the inspectors say in a glowing report. Staff in all five subject areas associated with the course are "enthusiastic, motivated and committed to the course". The report is said to be insufficient and student attendance poor in the second year of the course.

The only minor criticisms are of the balance between college work and placements during the second year of the course. Staff are advised to consider altering the timing of placements to allow a longer period in the college.

Difficulties in securing accommodations and placements for 17 of the 43 applicants offered places were "definitely" joining the course two months before it started in 1982. Eventually 22 students enrolled (rather than the 25 officially required) but only 14 were on placement.

Languages 'not studied enough'

Students of contemporary European studies at the Polytechnic of North London do not spend enough time on languages, although their work in history, politics and economics is often good, a report by Her Majesty's Inspectorate says.

The report of a visit arranged at short notice in April and May last year finds "little relationship of any interdisciplinary relationship between language study and the other specialist areas" and is critical of standards in French and German. The time allotted is said to be insufficient and student attendance poor in the second year of the course.

However, the degree is considered to provide the basis for an interesting and stimulating interdisciplinary course. Standards in history, politics and economics were found broadly acceptable and sometimes good.

The inspectors concede that there are inevitable tensions in an interdisciplinary degree of this kind. And they conclude: "Whilst it cannot be said that the course is at all times coherent and tightly knit, it is by no means fragmented and staff and students are conscious of the need to pull the various elements together and they are reasonably successful in doing so."



Goodbye to all that cash

"Universities refuse Government cash". If the above was a headline appearing in *The Times* or, dare I say it here, *The Guardian*, then it would cause more than a little surprise. Yet universities are saying goodbye to literally hundreds of thousands of pounds a year and have done so for some time. How does this come about? Precisely because the majority of them wish to include in their contracts of employment for contract research staff a clause denying them a redundancy payment. (This tendency is now spreading across to so-called "short-term" teaching appointments.) If no waiver clause was present in the contract, redundancy pay would normally be forthcoming and 41 per cent would come from the State fund set up specifically to help the employer meet the bill.

The National Association of University Teachers believes that a very considerable injustice is being done as a result of these waiver clauses, which apply to unfair dismissal, as well. This is why the AUT national executive has determined this as one of its priority issues.

A detailed negotiating pack is being sent in the next few days to each of our AUT local associations, so that immediate negotiations can start with their university authorities. It is of course the position that universities are still very much concerned with finance and even a Government grant of 41 per cent will present them with a shortfall to be made up. However, the case of lack of money looks patently absurd in comparison with the actual cost of redundancy pay for contract research staff. Take the example of Edinburgh, which has recently agreed to forego waiver clauses. They undertook a detailed calculation of their liability and provided a paper on this to their local joint consultative and negotiating committee. They calculated their annual liability at £20,000. Bristol University has undertaken a similar costing exercise and there the cost to the university of making redundancy payments would have amounted, in 1980, to only £5,500 and, in 1981, £10,000. If these calculations apply to the above universities with a considerable research grant income, then clearly the cost of redundancy pay is not excessive.

In case anyone should think that research staff will be receiving a windfall from these payments, the following is a typical example: a research assistant, age 30, at the end of a three-year contract, would get only £435.

Did I hear someone say "But they knew it was a short-term appointment"? So what? In most other sectors of employment a short period appointment qualifies for more money.

It would be worthwhile the universities reflecting not on the financial costs of the redundancy pay but the cost to them as the employers. It is undoubtedly true that these clauses cause resentment and low morale out of all proportion to what they are worth.

In comparison with what is happening in other countries, for the AUT to have to fight for such a basic right seems unbelievable. Take the illustration of what is happening in France. From this year, all 12,000 French Research Council researchers will become civil servants, enjoying superlative security and pension rights. Why should the staff in the UK be treated so shabbily, by comparison?

John Akker

The author is deputy general secretary of the Association of University Teachers.

Dutch OU ready to enrol

from Jessica Kuper

LEIDEN There was more money in the kitty in 1977 when the Dutch government first decided to establish an Open University on the British model, but despite budget cuts the university will come on stream this September. In contrast to Milton Keynes, its headquarters are in a depressed former mining centre, in Limburg, the siting of the university being something of a consolation prize for a province whose mines were closed in the 1960s.

The initial enrolment is likely to be around 10,000 students, but it is expected that there will be eventually up to 50,000 students, which would make the Open University as big as two of the largest conventional universities, at Amsterdam and Utrecht, combined.

As in Britain, enrolling students need have no conventional qualifications, but they must be 21 years old and be able to demonstrate the ability to cope with the courses. There will be a choice of courses leading eventually to a university degree or to a higher technical training certificate. The degrees will be officially equivalent to university degrees or certificates of technical training colleges.

The university courses are grouped into study programmes - law, economics, natural science, cultural studies, and social sciences - but students will be free to combine courses from different programmes. Most work will be done at home, and compared to Britain there will be relatively little reliance on audiovisual materials, or extended radio or television broadcasts. There will, however, be regional tutorial centres. Initially it was hoped to establish 24 of these, but with budget cuts, only 18 will now be opened.

The present staff includes seven full-time professors, but there will soon be 14 professors and a staff of 160. However, professional staff from other universities and institutes will be hired in temporarily to develop particular courses as needed, and, in contrast to Britain's OU, the Dutch university does not plan to become completely self-sufficient.

The Dutch government has allocated 1.3 billion guilders (about 300 million pounds sterling) for the development of computer technology in Holland over the next five years. About half of this sum will be spent on teaching and research in universities and technical colleges. One million guilders will be set aside each year to attract talent from abroad to train local researchers. A similar sum will be spent on sending Dutch post-doctoral students abroad for further training. Two hundred and twenty million guilders will be spent to provide extra training in computer technology in the technical colleges.

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Students jailed

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Lecturers fear the Irish solution

from John Walshe

DUBLIN The shape of the still evolving policies of the Irish coalition government towards the third-level sector has become a bit clearer with the official publication of a four-year programme for action in education.

Some details had already been leaked and others are still awaited as a further discussion paper on the options facing the third level will be published by mid-summer.

But enough is known to set the alarm bells ringing and to have the Irish Federation of University Teachers state that the very basis of university education in Ireland is threatened.

Politically, the minister, Mrs Gemma Hussey, may have struck the right chord with the action programme's promise to devote more resources to primary schools and to disadvantaged pupils.

But the shift in emphasis towards the compulsory period of schooling seems to be at the expense of the third-level sector.

The relevant chapter says that a major challenge faces the country in planning for the future of third-level

education. It is at this level that the greatest demand for increased places will arise in the coming decade and it is here that the costs are greatest.

The chapter says that the government will continue to provide third-level education for as many young people as possible. It adds that the system must become more cost-effective and productivity must be improved - this will involve rationalization of courses and, in some cases, fundamental changes in support.

Priority in financial support will be given to those academic developments, either by way of new courses or extensions to existing courses, which are geared to developments in modern society, thus ensuring that graduates are kept abreast of rapidly changing technology. As a corollary, it is expected that some courses could be phased out.

Particular attention will be given to rationalization of courses within and between the various colleges. The programme says there is evidence that identical courses, or courses with little difference between them, have proliferated in different institutions.

It wants an examination of possible rationalization over the whole spec-

trum of third-level education. Such an examination would not be confined to particular disciplines in their entirety but would have regard to the various specialisms within disciplines.

In the regional technical colleges, there will be increased emphasis on the provision of certificate and diploma courses, rather than degree courses. The technical/technological college sector has much higher staff student contact hours than in the universities and the programme says they could be reduced. This would allow for increased student numbers to be catered for without corresponding staff increases.

The plan refers to what it calls the "anomalous" situation whereby some degree courses last four years while similar courses in other institutions are provided over three years. An urgent examination is necessary to determine the extent to which four-year courses can be reduced to three years while ensuring that the necessary standards are maintained.

It confirms that the government is considering the feasibility of introducing a loan scheme to be operated in tandem with the existing higher education grants scheme.

The report says that any examination of third-level education should address the question of restructuring third-level courses in order to ensure a greater throughput of students.

In order to achieve a greater throughput of students without incurring major capital costs, the feasibility of redesigning courses on the basis of a four-term academic year will be examined.

The programme criticizes the "under-utilization" of specialist facilities, such as laboratories and workshops. But it also acknowledges the need for more accommodation.

Planning on several major projects has been held up, including a new school of engineering for University College, Dublin, a clinical sciences complex for Trinity College, Dublin, and new technical colleges for the greater Dublin area. Decisions in relation to these will be taken by the government in the context of the public capital programme, it says.

The action programme might not have alarmed academics so much if it had not come after years of cuts which have resulted in frozen posts, delays in purchasing new equipment and higher charges for services.

Rectors clash with ministers

from Barbara von Ow

MUNICH Differences have emerged between West Germany's culture ministers and university rectors on ways of tackling the nation's rising tide of students.

The culture ministers' conference (KMK) agreed earlier this month that no further admission restrictions should be introduced at German universities. This should also apply for information technology, although capacities have to be expanded to meet growing demand for the subject which was important for future technology developments but particularly expensive to run, KMK president Georg-Bernold Oschatz said.

The rectors' conference however, called for strict *numerus clausus* restrictions for computer science, saying there were not enough qualified teachers for the subject. Money alone could not solve the problem, the president, Theodor Berchem, noted.

Meanwhile both sessions agreed that no restrictions should be imposed on the beleaguered subjects of law and economics. These should continue to be handled by the central admission agency in Dortmund would-be students were sure to get a place, though not always in the city of their choice.

The two bodies disagreed on the issue of additional teaching hours as a way of coping with the "student mountain". Oschatz called on all university teachers to volunteer to extend their teaching to meet the growing number of students, expected to rise to between 1.4 and 1.6 million from 1.27 million at present, according to KMK forecasts.

The rectors, however, warned of "tricks" to expand the universities' capacity. On paper, a 12 per cent increase in capacity could be achieved if professors taught nine instead of eight hours weekly, Berchem noted.

Both ministers and rectors welcomed the proposed amendments of the German university law, outlined by an expert commission last month. The two conferences were also unanimous in their criticism of foreign minister Hans Dietrich Genscher's call for private elite universities.



Mr Rajah Kunda: fact-finding mission

New college for Zambia

by John O'Leary

A new university college is to be established in Zambia as part of a Government programme to strengthen higher education.

The priority being given to higher education was signalled by the creation of a new ministry for the subject. And there are plans to expand the University of Zambia beyond its present 5,000 students.

Mr Rajah Kunda, the minister for higher education, recently toured a number of English universities and colleges during a visit sponsored by the British Council. He also met senior research council officials and Mr Peter Brooke, under secretary for higher education at the Department of Education and Science.

The visit was primarily a fact-finding mission to aid Zambian plans to give added emphasis to agriculture and technology. In the first tangible example of this policy, the university's school of agriculture is being upgraded to the status of an affiliated college and given new premises.

With the country now considered to be reaching saturation point in terms of opportunities for graduates in the most popular subjects, the university council is now setting quotas to steer more students into science and technology.

Festival puts a new view of South Africa's history

from Howard Barrell

JOHANNESBURG The largest and probably most important history workshop and festival ever in South Africa was mounted at the University of the Witwatersrand last week.

The five-day conference, the third event of its kind, consolidated a trend towards what is being termed the "decolonization" of South African history. The energetic group of South African-based social scientists at the core of the trend is seen as having laid siege to the official history of the apartheid state.

The one-day festival brought together a strange configuration in the apartheid context. In line with the tenor of the new popular history, more than 1,000 black workers predominated in the grounds attending the open day, at which a number of historians displayed the results of their research in lectures and on film, and several workers groups put on theatre and other productions.

Anonymous threats were received by the organizers and there were signs of surveillance, which was thought to have been mounted by state agencies. But the event passed without incident.

Academics - all but about 10 based in South Africa - presented 53 papers derived from a variety of disciplines and covering, among others, working-class history and culture, social history and resistance to apartheid.

The conference papers partially mirrored historical perspectives developed by Eric Hobsbawm, Shula Marks and Stanley Trapido in Britain as well as American labour historian Herbert Gutman who is currently heading an American working class history project.

Among those identified as being behind the development of the new perspective are a group of Witwatersrand University academics, including social historian Professor Charles van Onselen, historian Professor Philip Bonner, industrial sociologist Professor Eddie Webster and sociologist Dr Belinda Bozoli.

Professor van Onselen called the workshop "the homecoming of South African history". No longer were "the majority of innovative writings on South Africa being formulated in the UK or elsewhere by South African scholars in exile".

The workshop represented an attempt to "decolonize" history for the people who are part of the process and to show them that they are active participants, not passive recipients at the tail end of a process orchestrated by others," he added.

The conference papers are expected to be published later in the year.

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overseas news



A tenuous question for Australia

For the last 15 months or so the future of tenure for academics in Australian universities has been in question. In October 1982 the Senate Standing Committee on Education and the Arts completed a lengthy review of academic tenure.

Among its many recommendations was the suggestion that in future only 90 per cent of staff at the lecturer level and above should be tenured - the rest should be employed on fixed-term contracts. Below lecturer level, it suggested that only a third of senior tutors should be tenured, and that no tutors should be given tenure.

These recommendations were in direct conflict with the Federation of Australian University Staff Association's policy that, except in special or unusual circumstances, tenure should be available to all academic staff.

The previous government was on the point of announcing its response when the election was called. The current government, although it has now been in office almost a year, has yet to make its attitude known.

The desire to "loosen up" tenure arrangements stems from what is commonly seen as the inflexible staffing arrangements in universities and the consequent inability of universities to adapt to change.

But what the politicians and bureaucrats (and indeed some vice-chancellors) cannot see is that introducing "throw-away" staff at the bottom of the academic career structure has virtually no impact on flexibility at all. Disciplines which are over-staffed and which have no vacancies will not gain contract staff because they will have no vacancies. Disciplines which have turnover, and need to recruit replacements on a long-term basis will end up with short-term contract staff who cannot be expected to settle down and plan long term contributions to a department in which their employment will be terminated within three or five years.

As FAUSA has repeatedly pointed out, flexibility cannot be introduced by turning over academics in short-term positions at the bottom of the structure. The roadblock in the system is the large cohort of staff who were recruited in the heyday of the 1960s and 1970s and who have now reached the top of the senior lecturer level with no prospects, in a "steady-state" system, of further promotion.

FAUSA believes that one sensible and effective answer to the age-bulge problem lies in a comprehensive (i.e. national), equitable and optional early retirement scheme. Under such a scheme those who are currently 55 or more would be able to opt out with no actuarial reduction in pension rights and with credit for service towards pension as if they had worked until normal retirement age.

The scheme is no policy pipedream. It has been the subject of intensive discussion and investigation in cooperation between FAUSA and the Australian Vice-Chancellors' Committee for the last nine months. It may prove far more sensible than short-sighted, money-banking as a means to solve the problem of the age "bulge" and the reduced flexibility it causes, and to revitalise the Australian university system for the challenges which we are promised the future holds for us.

Leslie Wallis

The author is the general secretary of the Federation of Australian University Staff Association.

China goes West with new loan

by Thomas Land

The World Bank has raised a new \$85m loan to improve China's higher education infrastructure. The investment backs China's long-term national strategy to produce the qualified manpower needed to reduce the country's dependence on continued huge cereal imports.

The bank earlier invested more than \$200m in a project to establish a new system of polytechnics and to expand the Television University system. The programme, which heralds profound changes in China's education system by exposing it to Western influence in a two-way flow of specialists, is to improve the training of technicians and scientists.

The new loan brings China's total debt to the World Bank to more than \$660m, most of it earmarked for agricultural development. The polytechnics financed from the latest loan will be set up in major cities and serve about 45,000 students - a sixfold

increase in the present enrolment in existing technical institutions.

The Television University will be updated and expanded through the strengthening of the central university at Peking, 28 provincial centres and 85 study centres in the provinces. Enrolment is expected to triple to 1.3 million by 1990 and more than two million by the turn of the century.

The system will reduce reliance on television broadcasts and produce more courses using video and audio cassettes as well as printed material.

The first group of Western academics to participate in the higher education development programme have already arrived in China. Several hundred specialists from Australia, Britain, Canada, the United States and Western Europe are expected to follow them within a year or two.

A group of 127 Chinese scientists are also receiving advanced training at various research institutions in Europe, North America and elsewhere supported by the global Consultative Group on International Agri-

cultural Research. China has just started the organization.

The CGIAR is an association of countries, international and regional organizations and private foundations supporting a system of agricultural research centres and programmes around the world with a view to improving food production in the hungry regions. Its sponsors include the World Bank and the United Nations Food and Agriculture Organization; and its budget is in excess of \$165m a year.

China's higher education infrastructure development scheme has emerged as a desperate effort at economic survival in a race against time.

China is the world's biggest producer and consumer of food. It accounts for less than 10 per cent of the world's arable land, but feeds nearly a quarter of humanity - and its population is rising fast. Its educational reforms are intended to produce the scientists and technicians capable of feeding the nation through drastic improvements in domestic crop yields.

Political ban on students

from Hasan Akhtar

ISLAMABAD The governors of the Punjab and Sind have promulgated a martial law order banning all students' organizations and student unions in the two areas. The decrees also directed forfeiture of students' organizations and unions funds and closure of their offices.

No explicit reasons for the clampdown have been given in the order which provides jail of up to five years for anyone violating it. A similar ban on student unions was imposed by the authorities in the North West Frontier Province late last year and in Islamabad in January.

The Punjab ban appears to be more wide in its sweep since it is intended to outlaw student politics and formation of students' associations and federations. Three main groups among students in Pakistan belonged to about half a dozen organized bodies with distinct political colours. The right wing belonged to Jamiat-i-Tulaba while the progressive and left-wingers belonged to the People's Students Federation, Qaid-i-Azam Students Federation or more virile regional groups in Sind, Baluchistan and the NWFP.

Several hundred colleges and universities will be disbanded in the Punjab after the ban. Among the universities so far affected are Qaid-i-Azam University in Islamabad, the Punjab University at Lahore (which is the oldest Pakistani university) and the Peshawar University in the NWFP.

There is a widely-shared view that the authorities are moving towards a total clampdown on students' union activities in all Pakistan's universities and colleges.

The stated reason for imposing the ban on union activities was that the union activists had turned campuses into arsenals. Frequent clashes among the politically-motivated students had resulted in shootings and deaths.

After the ban in the North West Frontier and Islamabad, Dr Mohammad Azhar, Pakistan's education minister, said the government proposed to set up students' councils and various students' societies to promote what he described as healthy activities among students.

Phantom students are an American college nightmare

from E. Patrick McQuaid

CAMBRIDGE The latest enrolment problem for American colleges and universities is the "no-show" syndrome.

As a short-term solution, the Cambridge-based Consortium on Financing Higher Education, which represents 30 of the more selective private institutions, is recommending that schools cancel offers of admission where students have made tuition deposits at more than one college.

Students have to deposit between \$50 and \$100 on the average to secure

their enrolment. It is not uncommon though for more affluent candidates to spend as much as \$1,000 on application costs and deposits.

Already, two members of the consortium - Stanford and the University of Pennsylvania - are threatening to take that action. With too many students promising to enrol and never materializing, planning for incoming students has become a nightmare at many schools.

Multiple deposits are generally found out by chance, but consortium members are discussing a data sharing

might renege on their enrolment commitments. The leading universities generally have no problem filling sudden vacancies but smaller colleges do.

Once it has been determined that a student is not going to turn up, admissions officers consult a waiting list of candidates. All too often these students have elected to enrol somewhere else by the time a seat opens in the entering class.

The strategy adopted by the University of Richmond has been to raise deposits. Since doubling its deposit fee to \$300, the university has seen a drop



Scientists answer SOS from Orlov

Yuri Orlov, (above) the Moscow physicist and human rights campaigner who last week completed a seven year prison sentence for slandering the Soviet Union is now due to serve five years in Siberia. However his colleagues and sympathizers abroad, are planning various initiatives in the hope of lightening his sentence.

Dr Orlov's support comes from three main centres. In the United States there is an Action Committee SOS (Scientists for Sakharov, Orlov and Shcharansky) which encourages individual scientists to make an "appropriate" response (ie personal boycott of conferences and visits) to limitation of human rights in the Soviet Union. In London John Macdonald, QC, offered himself as Orlov's defence lawyer in 1979 but whose competence was not recognized by the Soviet court. At CERN in Geneva there is a strong Orlov Committee.

Press conferences were held last week, one at CERN, one at the Institute of Physics in London to mark the nominal date of Orlov's release.

Mr Macdonald proposes to approach the Soviet courts to have the case retried, on the grounds that insufficient defence evidence was presented.

Secondly, there is the possibility that Orlov's sentence could be commuted from "internal" to "external" exile, in other words, that he could be allowed to emigrate. One suggestion here is that he could be offered a post at CERN, which has just renewed and extended its cooperation agreement with the Soviet Union. CERN is a joint intergovernmental venture sponsored by 15 European governments. Several of these have cautiously stated that they will have nothing against the scheme if it is approved by all concerned. It is unlikely, however, that the Soviet authorities would see a prestigious post at CERN as equivalent to Siberian exile. Moreover, at 59, Orlov is only a few months from the Soviet retirement age.

The third proposal, which Mr Macdonald urged the CERN scientists to consider, covers the eventuality of Orlov serving his Siberian exile. In this case, it is proposed that scientists should apply for visas to visit him, so that they can bring him scientific journals and discuss scientific problems with him.

There is always the sanction of scientific boycott. The CERN committee do not advocate this as a policy, but stress that every scientist must think through his own position. One form of protest has been the wearing of Free Orlov T-shirts when high level Soviet visitors are on the premises.

Strine on the resources

Young migrants in Australia have little help in learning English says a recent study. Geoff Maslen reports

In the melting pot of nationalities that constitutes Australian society in the 1980s, there are uncrushable ethnic lumps.

These are the half a million immigrants, speaking 100 different languages, who have little or no fluency in English. Then there are 400,000 or more children between 5 and 14 who come from homes where no English is spoken.

The cost to Australia arising from the social dependency of illiterate, poorly-educated or unskilled non-English speakers is incalculable. Yet it is a cost successive governments have been willing to bear.

For even after 30 years of large-scale immigration from Europe and more recently Asia and South America, many newcomers to Australia still do not receive adequate instruction in English. Foreign adults have created language ghettos in every capital city. Their children - if they are lucky enough to become competent in English - may be forced to act as interpreters, transmitters of information, and advisers to their parents.

But if the immigrant is a young adolescent who is forced out of school - as many are - because of lack of support and help with the new language, he or she may end up in something of a language vacuum, speaking neither the home tongue nor English with much competence.

It was not until 1970 that the federal government created a national Child Migrant Education programme to meet the language needs of non-English speaking immigrant children. Thirteen years on, and after the expenditure of more than A\$30m, cumulative research findings and observation suggest that there is still a considerable shortfall in the provision of adequate services.

A report recently released in Canberra concluded that there are serious gaps in the general education, training and English language instruction available to young people of non-English speaking backgrounds. The report highlights the particular disadvantage and vulnerability of immigrants and refugees aged 15 to 24 years whose inadequate English reduces their chances in education and employment.

The report by a group of ethnic liaison officers from various Commonwealth departments identifies comprehensive English as the key factor for the realization of young immigrants' full potential. It also provides a scathing account of the failure of Australian governments to help these young people achieve their potential.

The UNESCO convention against discrimination in education, signed by Australia in 1967, commits Australia to giving immigrant children the same access to education as is given to native-born Australians. And to recognizing the right of language minorities to the use and teaching of their own language. Yet all evidence points to the fact that many young immigrants have been and continue to be short-changed by the Australian education system, while bilingual education programmes remain very much a rarity in schools and virtually non-existent in higher education institutions.

The extent to which migrants have fallen behind in the education stakes is difficult to quantify because of a deplorable lack of data. The report refers time and again to the absence of concrete information on which rational planning and decision-making can be based.

"Lack of a relevant, accurate and up-to-date national database means there is no way of establishing whether students most in need are receiving (appropriate) English teaching or how Commonwealth funds earmarked for this are spent," the report says.

Policy and practices in the teaching of English to migrants range from "agreed to set a cut-off date for enrolment confirmation. It suggests that all schools notify applicants of admission decisions by April 1 and adhere to a day 1 reply deadline, giving admissions officers until July to consider waiting-list applicants. Several colleges do not notify applicants until

the progress in the English language of immigrant children and young adults - factors which affect the development of English language competence have not yet been identified, and no survey has been made to determine the level of language competence of students from non-English speaking backgrounds."

No research has documented the numbers of non-English speaking adolescents arriving in Australia each year, the report notes. Little is known about those who seek to enter the workforce or those who wish to pursue technical and trade courses begun in their own country. No statistics are collected on the participation by age of immigrants in adult "on-arrival" and full-time English courses. How many immigrants who arrived in Australia aged 15 or more and took part in the Fraser government's school-to-work programme is also unknown and no research has examined the education and training needs of recently arrived teenage migrants, compared with those who have been in Australia for some years.

Early school-leaving by ethnic background also appears not to have been documented by education authorities,

Between 1978 and 1981, more than 38,000 young Vietnamese from 10 to 19 years settled in Australia. Many were supposed to be under the guardianship of a relative or friend but this relationship often proved tenuous and broke down shortly after arrival, leaving hundreds of adolescents to fend for themselves.

Another 9,000 Vietnamese aged 20 to 24 years arrived during the same period and many were single people with tertiary entry or partly completed tertiary studies. They were prepared to attend school or other secondary courses in order to qualify for tertiary entrance in Australia. Income support was essential but, according to the report, many were not eligible for any study assistance or the dole.

The federal report makes clear that immigrants - young ones especially - have had and will continue to have a valuable impact on Australian society, not least as an important component in population management for changing the age profile. Immigration of young people and children has effectively retarded the aging of the Australian population, the report states. Immigration contributed 60 per cent of Australia's postwar population growth and tended to do so in younger age groupings.

The contribution young migrants can make to the Australian economy is likely to be greater if they can complete secondary education, develop their skills and realize their educational and career potential, the writers of the report argue. Any investment in them in terms of their participation in adequate education and English language programmes should be offset against savings made on the cost to the Australian government of their education prior to immigration.

The report calls for the collection of much more information; the coordination of English language programmes; more support for migrants whose English is poor and more financial help to 15 to 24-year-olds who wish to complete secondary schooling.

Increased opportunities for intensive, English tuition for all non-English speaking immigrants and refugee youth; greater use of bilingual programmes in schools, transition courses, technical and further education courses; greater recruitment of multilingual staff as teachers and teacher aides to work with newly arrived immigrant and refugee young people; Education authorities to encourage teachers to pursue second and other language studies through course work and travel by providing study leave and leave without pay and giving credits to teachers who do so.

Like the 1978 Galbally report which reviewed post-arrival programmes and services for migrants, this latest report is full of good ideas and recommendations. Publication of the Galbally report persuaded the federal government to pump A\$10m extra into migrant education programmes between 1979 and 1981. The latest Canberra report does not put a figure on how much more is now needed. But it does give an indication of just how much remains to be done.

While Australian research on immigrant education has overlooked the needs of teenage migrants, particularly the 15 to 19-year-olds in transition between school and work, and provides an inadequate base for programme planning and implementation, the report adds.

Lack of English also makes it even harder for new migrants to find their way through Canberra's bureaucratic maze of financial allowances, benefits and assistance available to those wanting to learn the language. Four Commonwealth departments administer up to 10 different assistance schemes, from double orphan pensions to junior secondary bursaries from living allowances for students in full-time courses, to the unemployment benefit.

But inconsistencies in the administration of the schemes abound. Unemployment benefits, for example, are withdrawn if a migrant undertakes full-time intensive training in a language centre in a school system. Although a living allowance equivalent to the dole is paid to students participating in the adult migrant education programme no similar assistance is available to younger students at language centres.

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After school, overseas born migrants constitute a disproportionately large number of the unemployed, account-

Ernest Boyer



Time for a new attitude on assessing aptitude

Recently, on a visit to Japan, I became more aware of the "Cram Schools" that have grown up to prepare secondary school graduates for university entrance examination. This is serious business not only for the people who run the companies but equally so for students. In Japan, perhaps even more than in other industrialized nations, gaining access to a ranking public university is a ticket to a secure and prestigious future while failing to do so means restricted options.

In the United States, too, there is a flourishing test preparation industry. It is built around helping secondary students get ready for the Scholastic Aptitude Test (SAT) - our most widely used school-college transition examination. How much good the preparation actually does is open to question. Even so, many of our more affluent students are eager to gain competitive advantage.

Several weeks ago education secretary Terrell H. Bell released the average SAT scores for the various states, suggesting that this was a measure of the overall quality of the schools within the states. What was overlooked was the dramatic difference in the number of students taking the tests from one state to another. In New York, for example, 61 per cent of students take the SAT, while in Iowa it is 3 per cent. And even the best testing experts differ on the meaning of scores to measure something as slippery as aptitude of large groups of students from differing social and economic circumstances.

But all of this raises a far more important issue: how should we evaluate the students and how can we better help all students as they move from school to work and further education?

During our own study of secondary education in America, we found that the SAT was the most important and traumatic experience of many students. They seemed to feel (not as intensely as students in Japan perhaps) that their future depended on that single test, which often is not the case. The skills and qualities that are needed for learning institutions are not highly selective, and there are few that use the SAT as the primary criterion for choosing students.

The irony is that the SAT was not created to measure the quality of the schools. Rather, when the Scholastic Aptitude Test was constructed about 60 years ago, the aim was to measure students' underlying aptitude for higher education, not what students had learned during high school in specific subject matter areas. Today, while it is generally acknowledged that the SAT scores relate in some fashion to what is taught in schools, as well as to the student's background, the precise connection remains unclear.

The SAT was developed at a time when many believed an instrument could be prepared to measure aptitude - a relatively constant set of intellectual characteristics and abilities - not seriously affected by previous education. But the evidence suggests that this early faith was misplaced. It is generally acknowledged now that the SAT does not measure the basic ability of students, nor is it directly linked to the curriculum in the schools. Still, the nation has mistakenly come to view the SAT as a reliable report card on its schools. Now, regrettably, the federal government seems to have thrown its weight behind a flawed notion.

The SAT was shaped at a time when the quality of high schools was extremely uneven, and ethnic and racial intolerance was a fact of life in admission procedures. The SAT sought to make the process of student selection more accurate and equitable, and scores on the exam were given only a slender weight. But it is limited in its

ability to predict how well a student will do in college. When used alone, the scholastic aptitude test is better than random selection in predicting academic success. When the SAT score and high school grades are combined, the accuracy of predicting success in college moderately increases.

The highlighting of SAT results as an important indicator of school quality does offer a new opportunity to focus the public's attention on the issue of examinations and on how the student transition process can be improved. There is an urgent need in the United States, currently unmet by the SAT, for a more effective assessment and guidance programme that will give colleges and universities a more realistic portrait of what students have learned during the high school years - not screen them out but to help students find colleges that fit them best.

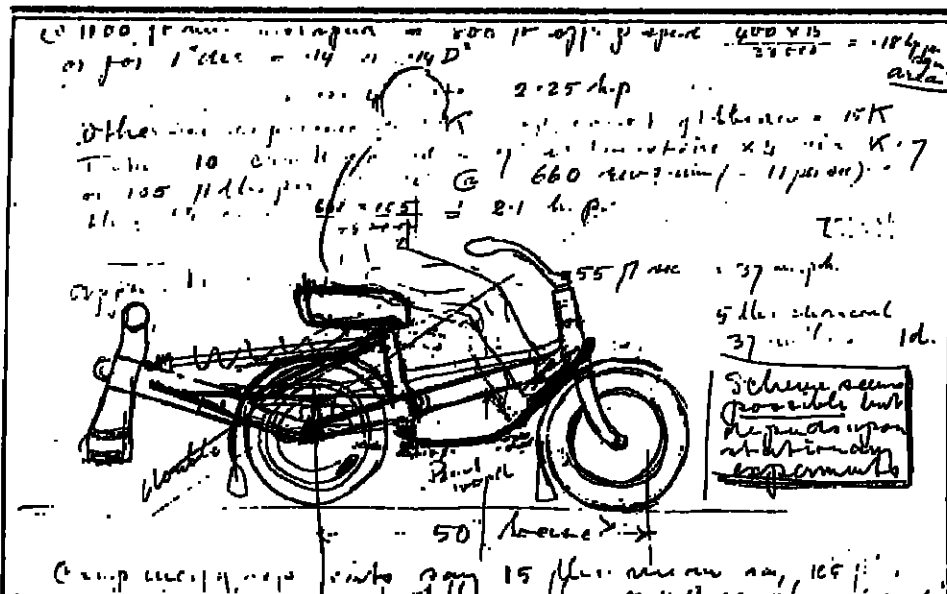
A more valuable measurement of education quality in United States schools is another test given in early grades as well as to 17-year-olds - the national assessment of education progress. The national assessment has the virtue of periodically testing students in the subject areas in which they have been taught, such as mathematics, science, social science studies and reading. Then, too, there are state-based tests, such as those carried out in Iowa, California and Michigan, which focus on specific subjects - on what students actually have been taught.

Yet the larger problem remains: how can we through evaluation best serve the needs of all students? It is ironic that under the current system those who need the most help get the least. Frequently non college students get only snippets of information about job possibilities from family or friends or other students or counsellors at school. It is unacceptable to focus our elaborate testing and assessment system only on those moving on to higher education while ignoring half the young people who even more urgently need guidance.

That is why the Carnegie Foundation, in its recent report called *High School*, recommended that a new student and advice test be developed to serve the needs of all students as they complete secondary education. The goal of the new assessment programme would be to evaluate the achievement of the student - linking it to the core curriculum that the student studies. The goals also would be to provide advice, to help students make decisions more intelligently about their futures - again, not to screen out options, but so that they may move on with confidence to further education and to jobs.

The College Board, which administers the SAT, now offers achievement tests in specific subject areas. With some modification, these could form the basis for at least the achievement part of the new evaluation programme. Further, the College Board recently released its own thoughtful report on what a college-bound high school student should know. This provides at least a beginning for the linking of education and evaluation. When such a link has been created, then it will be possible to have a report card on the nation's schools that is rooted in reality.

The current debate about the quality of education in the United States reminds us once again that what is taught is what is learned, and that educators must be far more thoughtful and creative about evaluating the achievement of their students.



A page from one of the 13 Lanchester sketchbooks now at Coventry (Lanchester) Polytechnic. No one so far has identified what the drawing is.

Enthusiasts call Frederick Lanchester (1868-1947) "The British Leonardo" in an amalgamation of description and hype: the nickname implies not only a Renaissance range of talents, but a similar degree of fame.

In fact very few people apart from aeronautics and veteran car enthusiasts, mathematicians and military strategists, have heard of Frederick Lanchester. Even the inclusion of his name in brackets between "Coventry" and "Polytechnic" has not brought the recognition his admirers think he deserves.

But the polytechnic is about to spring on the public a Lanchester treasure it quietly acquired over a year ago: 13 of Lanchester's sketchbooks, whose contents and style provoke the Leonardo comparison almost automatically.

The large leather-bound books, each over an inch thick, full of Lanchester's characteristically scruffy superimposed drawings, calculations and comments in 2B pencil, were bought by the polytechnic for £1,000 from Christie's, the London auctioneers.

They were "bought blind" just before Christmas 1982. On the morning of the sale, a local Lanchester enthusiast, a small Lanchester, which already had a small Lanchester archive, asking if they planned to bid for the unspecified Lanchester material that afternoon. The polytechnic knew nothing about them. After a call to Christie's and some biding of nails, according to polytechnic librarian John Fletcher, they decided to enter the bidding with only a rough idea of what they might find.

It was better even than their highest hopes. As well as the 13 sketchbooks, there was a small trunk full of letters, papers and photographs, perhaps as much material again as the archive then held. No one knew where it had come from: Christie's would not say, and surviving Lanchesters, who have previously presented material to the polytechnic, were angry that they should have been obliged to pay for this.

But the polytechnic was delighted, Frederick Lanchester would have fully approved of the aims of a scheme at Coventry Polytechnic to encourage students to apply their knowledge to the benefit of the community.

A research programme launched earlier this month will look at the concept of study service—students' practical projects geared not only to the academic requirements of their course but to the needs of the community.

Many students across the disciplines will have to show evidence of their ability to apply the knowledge they have acquired, normally in a way which can be assessed as part of their degree. In many cases the project is entirely contained within the university or polytechnic, a largely academic exercise; in others it may be a case of practical problem solving for a real client in industry or commerce.

The idea of the study service is to be evaluated by researchers at Coventry: to see how this principle can be extended into the community to the benefit of all concerned. Funded jointly by the Leverhulme Trust and the Gulbenkian Foundation, initially for £25,000 over 18 months, the study has its roots in a survey by the Community Service Volunteers in the late 1970s. This found ad hoc activity dependent largely on the initiatives of individual academics or occasionally students, and CSV felt a more coherent approach was needed.

The research team, Kenneth Carter and Sue Buckingham, have set three main objectives. The first is to discover how much of the existing activity within the undergraduate teaching programme could be classified as community



The sketchbooks of Frederick Lanchester are to go on show at the polytechnic bearing his name. Karen Gold reports

even though, due to a freeze on Manpower Services Commission schemes, it has still not been able to employ someone to go through the material in the trunk. This April it is to rename its library the Lanchester Library and set up what will become an annual exhibition of Lanchester material, using the sketch books and the existing archive. By next year, the new papers may have been catalogued too.

One of the reasons why there is so much Lanchester material about—John Fletcher is sure that there is plenty more uncollected material as well as that held in the Science Museum, Southampton University, the Royal Aeronautical Society and the Birmingham Museum of Science and Industry—is that Lanchester, as well as designing in a multitude of areas, was a prolific letter-writer.

He typed even his private letters—he wrote a friend: "I myself hate the sight of a page I classify them with the old film implements and such like"—and kept the carbons, which show not only his somewhat erratic spelling but also that the typing sometimes came so fast the typing tumblers off the end of the page.

Lanchester was one of seven chil-

dren of a London architect. He was educated in Southampton and London, acquiring qualifications at neither place, and went to work for the Ford Gas Engine Company at the age of 19. He seems to have had a precocious confidence in his own talents; he refused to sign his first contract until Ford's removed the clause giving them patent rights over anything he designed.

It was an accurate assessment: during his life Lanchester patented more than 400 different inventions, though he received little financial benefit from any of them. At Ford's he rose to become works manager within two years, and started registering patents at about the same time.

But his first claim to fame came six years later in 1895, when he designed the first all-British four-wheel petrol driven car. Each year for the next three years he produced a new prototype car, each with the characteristic Lanchester elegance and inventiveness.

In 1899 he set up a company to go into production with his two brothers George, also an engineer, less imaginative but a more practical production man, and Frank, who had the head for commerce. The company

went bust in 1904, but was set up again the following year and lasted until 1931, when it was taken over by Daimler.

Even before the company was first set up, Lanchester had registered his interest in other areas. His thesis, written in 1897, was on aerodynamics; the subjects of his writings and designs included the mechanics of the piano and the musical scale, photography, loudspeakers and transformers, operational research, aeronautics, armaments including an armoured car and a machine gun, machine tools and of course car parts. He invented a pre-selecting gear box and designed a very early set of disc brakes. He also published poetry under the extraordinary pseudonym of Paul Hetherington-Herries.

His more extraordinary ideas included a pneumatic piano and a hypersensitive fuse for explosive shells, which was never manufactured because he realized it would explode if it hit a bluebottle! He eventually received his doctorate from Birmingham University in 1919; in 1922 he became a fellow of the Royal Society, and in 1926 was awarded the Royal Aeronautical Society's fellowship and gold medal.

But if the sketchbooks in the polytechnic's archive reveal Lanchester's astonishing creativity, his letters also show his impoverishment and sometimes embitterment. He never seemed to have any money, despite at one time being paid £3,000 a year as a consultant by Daimler. In 1938 the Society of Motor Manufacturers agreed to take over his mortgage and pay him £200 a year.

By that time he had fallen out with Daimler, a division exacerbated by the loss of the drawings and prototype of his first car in their factory during the Blitz. He wrote to his brother George: "I am sorry to hear that the original Lanchester has been destroyed by

enemy action. The Daimler were very careful to get their stock of cars out of the danger zone, but did not care a damn about things that counted far more."

He had a knack, which he seems sometimes to have relished, of making enemies in the scientific establishment: he battled with the National Physical Laboratory throughout his life, and described a visit to another "very swell laboratory with hundreds of thousands of pounds worth of apparatus, it may have been millions. When leaving being asked what my impression was, I praised everything most highly and picked on some of the apparatus as of special interest. Then after a pause I said I only missed one thing. Of course I was asked to say what that was. The reply was, B-R-A-I-N-S."

The political establishment, on the other hand, simply ignored him. He did sit on a government advisory committee on aeronautics during the First World War, but withdrew in 1918 because it did not pay enough. During the 1930s he was a vehement advocate of disarmament.

After Munich, when he felt himself vindicated, he wrote extremely complimentary letters on policy to Chamberlain, and after the war had started sent his advice registered post to Churchill, starting: "Dear Sir—Are we never going to conduct our war with foresight and intelligence?"

There is no evidence he received more than a polite acknowledgement. Certainly he did not receive the official honour he might have expected. He seems to have suffered a mixture of paranoia and genuine exclusion: a young scientist who asked his advice said he could not acknowledge a link with Lanchester for fear of damaging his career.

He wrote to George: "The Country (Government) knows all about my work but can't admit it. It's a matter of face-saving." Like Leonardo, he died with recognition only among specific enthusiasts, leaving notice of his many kinds of talent—polytechnic abilities in fact—to come only after his death.

The philosophy is simple: most undergraduate courses have the practical application of acquired knowledge as one of their main objectives, usually measured by one or possibly more assessed projects.

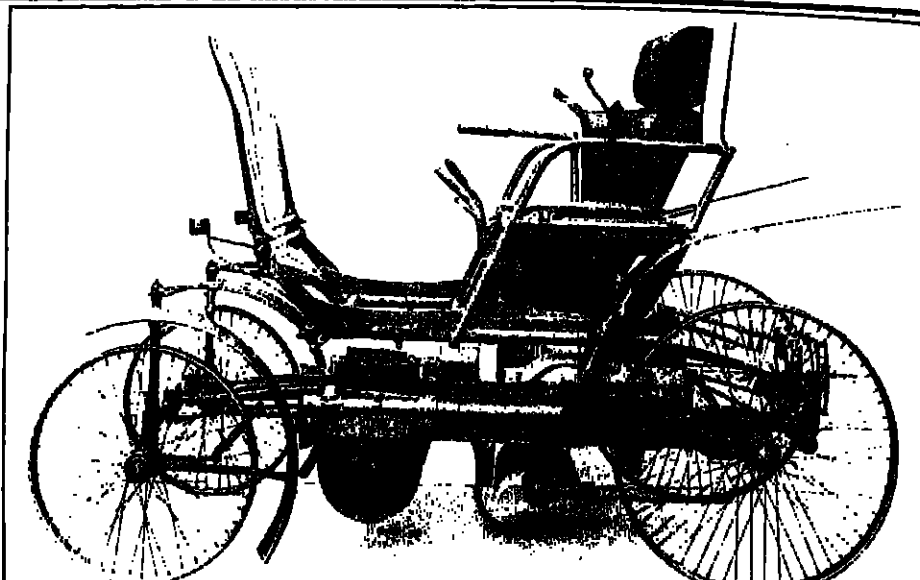
Mr Carter says there are kinds of academic objectives which study service can help achieve. One is the way in which students gain a view of how their knowledge is perceived by other people—a response perhaps from lay people who make their assessments by grassroots judgments rather than concentrating on academic issues. Students also gain those less tangible social skills of knowing how to deal with people who want to tap their expertise or presenting their ideas to a critical audience.

One aspect of the project will be to discover how these experiences affect student attitudes. Mr Carter also predicts a change in the relationship between academics in certain fields and the world outside if projects become more widespread.

The long term objective, in some three years, is not only to produce reasonable answers to the initial questions but to produce a "code of practice" to guide study service initiatives in other institutions.

Selling the idea in some areas will not be easy, but Sue Buckingham says: "We have to establish that community work is as beneficial to the student's development and to win over departments who say that only experience with a company is beneficial."

David Jobbins



1897 eight-horse-power two-seater Phaeton Lanchester. Crown copyright: picture courtesy of the Science Museum.

The British Leonardo

Learning from experience

Maggie Richards looks at a report on adult education for the unemployed

Have universities a role to play in bringing their traditions of adult liberal education to the unemployed? The answer, according to recent research from Leeds, is a resounding "Yes".

The successes, failures and pitfalls of a venture conducted by the department of adult and continuing education at Leeds University are documented in a report to the Department of Education and Science, which assisted with funding.

Originally it was envisaged the report would be produced after three years of research had been conducted, but the rapid progress achieved led to the view that it would be useful to share findings with other adult education bodies as soon as possible. The report says: "After nine months' work, 116 courses were organized and more than 1,100 unemployed people involved in a wide range of educational opportunities. It must be acknowledged, however, that the project is barely scratching the surface of one of the major social and educational problems of our time."

"Not only is the perennial factor of the predominantly middle-class bias in adult education a persistent problem in developing work of this type, the very scale and magnitude of the unemployment levels make adult education provision of any sort, at one level, marginal."

"In Leeds alone, for example, there are more than 40,000 unemployed adults, while our total project attracted fewer than 1,500 to classes."

"Moreover, the problems of overcoming the psychological effects of unemployment (particularly long-term unemployment) are immense, and not susceptible anyway to exclusively educational solutions."

"In terms of current adult education responses in Britain to unemployment, however, it could be argued that by systematically adopting varied approaches and offering a wide range of classes, the project is already giving useful pointers to the ways in which future provision, nationally, might be developed by adult education agencies if sufficient funding were to be made available."

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The project at Leeds began in October 1982, after a new "Pioneer Work" scheme was established within the university's department of adult education to develop "essentially innovative, and experimental" adult education for certain specified sections of the socially and educationally underprivileged. Apart from the unemployed, the Pioneer Work scheme was directed at working class women, ethnic minorities and retired people.

A member of the department staff, Richard Taylor, was appointed coordinator, and the Department of Education and Science then agreed to finance the appointment of a lecturer, Kevin Ward, to develop an action research project with the unemployed. It has also allocated funds to help finance the appointment of part-time tutors in Leeds and Bradford to set up courses, teach, and monitor developments.

Four different means of approach to the unemployed were adopted by the project team: relationships were established with community groups, trade unions, out-of-work centres and other organizations for the jobs and through existing educational institutions and related agencies.

Monitoring of the project was arranged by the collection of statistics from detailed registers and reports which tutors provided for each course. In addition, qualitative data was collected from tutors' monthly reports and from the compilation of case studies.

The project team also recognized that while the university could play a very positive role in the initiation of a wide range of adult education work, cooperation with other educational agencies was essential to obtain skills and resources outside the university's remit. On a long-term basis too, the team accepted that the university, having initiated successful courses, might want to relinquish its control to other more appropriate agencies.

In attempting to reach the unemployed through community links, the project organizers made contact with neighbourhood groups, community centres and tenants' associations. Ninety per cent of those participating



Redundant after a lifetime at the steelworks in Shotton, North Wales.

in courses had left school at the minimum leaving age.

"People contacted via this approach were much more interested in education which they themselves saw as relevant to their circumstances and needs. This included a significant number of welfare rights courses and a wide variety of other courses which developed out of detailed negotiations with local groups. There was very little interest in subject courses," says the report.

"It is a prominent feature of our society that, in general, only those with a relatively high level of education develop an interest in the major subject areas (whether arts, science, or social studies). The approach used here, therefore, was to construct issues-based, rather than subject or discipline-based, courses which would lead into discussion and analysis of wider social issues."

"This approach involved a deliberate concentration on a variety of inner city areas and council estates, and was only successful because there was careful, detailed and cooperative pre-course planning through tenants' associations and community centres."

The report cites one instance in which an attempt to organize adult education courses at a community centre anxious to "do something for the unemployed", met with failure. Extensive advertising failed to recruit any students, and it was realized the scheme lacked a "word of mouth" network to encourage potential students to come forward.

In contrast, a successful programme of courses was launched in another area by making informal contact with unemployed people through well established community groups. To explore adult education possi-

ties with the unemployed through trade union sources, the project invited informal discussions with the Amalgamated Union of Engineering Workers.

Informal talks with shop stewards progressed to formal meetings with the union's district committee and finally to the formulation of detailed proposals by a sub-committee.

But the report comments: "Establishing legitimacy and close liaison for joint working is a far more complex, difficult and time consuming process in the trade union approach than it is in other approaches."

Initial preparation work "lasted more than three months and illustrates one obvious general point about developing education work with and through trade unions. Working through official union structures and committee cycles is a slow but essential process. One certainly cannot expect any quick results from it."

Eventually a group was formed for unemployed union members, which met over a six-month period at the AEUW's offices in Leeds. Courses covered welfare rights, general discussion on unemployment and the role of trade unions, and sessions on new opportunities. All the participants had left school at the minimum leaving age and had no previous connection with

adult education. Seventy per cent were aged 45 or over.

"Given that this was the first such initiative, remarkably, with which the AEUW had been involved officially (and indeed it is difficult to find any examples of other unions developing similar work) it can be judged a considerable success," the report finds.

In assessing the project's overall work to date, the report says considerable progress has been made considering the longstanding and major problems involved in making adult education relevant for, and accessible to, working class people.

"The problems are, of course, even greater in working with people who are demoralized by the social, personal and financial effects of intermittent or long-term unemployment."

A number of factors are identified as having contributed to the project's success so far: good cooperation with other agencies; a sound, cohesive staffing structure; free provision of courses and flexibility in meeting the needs of the unemployed; and detailed pre-course planning, involving potential students wherever possible.

At the time of the report's compilation a wide spectrum of courses were planned for the future, including topics on welfare rights, new technology, photography and video, health and women's courses.

"Such provision in this area of work is necessary if the objective of involving the educationally disadvantaged is to be attained," it says.

In conclusion the report says: "The significance of the action research project lies basically in the fact that it has clearly demonstrated that there are major, current, unmet educational needs of working class unemployed people which can be met, provided that resources are available and that the provision is free and relevant."

Beyond Tokenism - Unemployed Adults and Education. A report to the Department of Education and Science on the Leeds University Action Research Project by Kevin Ward. Published by Department of Adult and Continuing Education, University of Leeds. Price £2.

Iola Smith reports on the Cardiff University Industry Centre

Converting theory into practice

"The Ideas are British, but the goods are made elsewhere"—a charge often levelled against this country. But things are changing. Inventors and industrialists are getting together and profits can be made when theory is converted into practice, often giving the local economy a much-needed boost. University College, Cardiff grasped this potential during the early 1970s when it established an industry centre, the CUIC, to link research with manufacturing industry.

As well as offering the usual consultancy service, the centre deals with actual products, ideas and innovations being generated at the university while the goods are subsequently made in local factories. Occasionally suggestions also come from industry, but these are usually related to specific problems. Businesses are offered a package ranging from research facilities to marketing advice, and during preparation the CUIC liaises with numerous university departments.

Science, technology and engineering are actively involved at the research and development stages and subsequent advice is sought from the law and economics departments. With so much professional expertise at hand, the CUIC has much to offer the business world and in an unemployment blackspot such as South Wales there is a constant need for new enterprises. In fact, with funding and support from the Welsh Office, the Department of Industry, and the South Glamorgan, Mid Glamorgan and Cardiff councils, the CUIC has brought 100 new jobs to the area.

All the products developed by the centre have one thing in common—they are noted for their practicality. Innovations have been made in recycling waste materials and in insulating materials but perhaps the best known of all the CUIC's products is the insulating textile Flectalon. Lightweight, this fluff-like material does not lose its power when wet, a fact appreciated by the soldiers in the Falkland Islands who wore Flectalon insulated jackets. It is an amazingly material which reflects 95 per cent of body heat, thereby ensuring that the body is warm in the coldest conditions. Alternatively, if the product being protected is cold, Flectalon keeps it that way and it has been used to line cool bags. Its main application, however, has been to counteract hypothermia. The textile was invented by the university's physics depart-

ment and it is produced by Flectalon Corporation. Another of the CUIC's discoveries is an energy saving roller blind, the result of research done in collaboration with the physics department. The brief was to find a way of insulating windows and, working on the same principle as Flectalon, the roller blind has a reflective film which reduces heat loss during cold weather and ensures a cool steady temperature in summer. It is claimed to save 50 per cent of heat lost through windows and the CUIC says that the blinds are "as effective as double glazing at a fraction of the cost".

Recycling waste materials is one of the CUIC's main concerns. Assisted by the Mineral Exploitation department it is investigating how to reclaim zinc dust from furnaces. It is anticipated that a company will be set up in South Wales to recycle the dust into usable material for the paint industry. Waste wood from saw mills also has a purpose. It is a perfect fuel for the CUIC's Gasifier, a boiler designed to heat a small building. Produced by East Moors Fabrications it is currently being tested for use in the third world. The CUIC is also hoping to export the Gasifier to France, where vine clippings could be used as fuel. The Anaerobic Digestion project has a similar objective, converting farm waste into energy.

The centre's research also includes horticulture. New lightweight tomato grow-bags have the advantage that they cannot be over-watered, and have been tested successfully at a local nursery. A new company is being created to manufacture the bags for the DIY market. Finally, the slug population is expected to diminish rapidly when the CUIC and the zoology department's new slug bait comes on the market.

Although the centre is primarily concerned with helping industry, it also promotes general inventiveness and has begun a schools project in Mid Glamorgan. Many of the county's youngsters have no prospect of obtaining work when they leave school, and the CUIC is encouraging them to attempt to invent their own products.

The CUIC claims a success every time academic theory ends up as a product on the factory floor—low and gown cooperation at its best. Between this and the teaching programme to train young inventors, south Wales is being armed to fight the ravages of the recession.

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Frauds in high places

Alan Doig spent the year before publication of his book on corruption checking and double checking every reference to a living name, ensuring his lawyers had documentary evidence backing up every allegation made.

As he had mentioned more than 200 people in his book, all of whom had been involved in corruption cases or inquiries, it was a tedious task. But his publishers, Penguin, had insisted on proof for anyone who was born after 1900, and who could therefore still be alive.

In the end he had to take out very little, references to some London policemen, an MP, and a short passage about a council.

He has written, in *Corruption and Misconduct in Contemporary British Politics*, what his publishers claim is "the first comprehensive study of corruption in public life in Britain today".

It contains an account of virtually every corrupt act that was presented or investigated in Britain since the 1950s. It includes a historical perspective showing how the attitude to bribery, corruption and patronage changed from round about the thirteenth century from one of acceptability, gradually to one of moral censure and illegality.

He traces the growth of laws against corruption but makes the point that laws and procedures are frequently inadequate or under-used. Time and again, after a spectacular trial, such as the Poulson case, inquiries are held to see if the standards of public life have universally dropped, but always the official comment - be the area the police, local government, the civil service - is that the incident was an isolated one, standards generally have not been impugned.

This "rotten apple" theory Alan Doig attacks. He sees a disturbing rise in the tolerance threshold and makes a case for the existence of a much greater level of corruption and misconduct than would generally be believed.

He agrees that it is the kind of book more likely to have been written by a journalist than an academic. It is even more surprising than that, because he is not a lecturer or researcher but a full-time university administrator, sub-dean of the social science faculty at Liverpool University.

He wrote the book in his free time between 1979 and 1983 long having had a fascination for corruption in politics, sparked out when he took an MA at Durham in 1970 on the theory of corruption.

He admits being a "media groupie". He was involved with the Durham "alternative" paper, *The Ferret*,



Ngaio Crequer meets Alan Doig, author of a study of corruption in modern British politics

helped to plan a paper in Leeds and became friendly with the reporters on the *Liverpool Free Press*.

"It was the first time I had come across investigative journalists. What they said was totally at variance with what the textbooks said about, say, local government, or what the conventional press reported."

"The textbooks talk about the system, but they do not tell you how the informal networks work. The *Free Press* asked about individuals and how they played the system for their own ends."

"Academics in this area are interested in performance review committees or the organization and structure of politics but it is very difficult to get information on the typography of British politics."

"Corruption was crossed out from the textbooks in the 1940s so people in the fifties and sixties did not know that it existed. So you have to go back to square one and do empirical research."

He started the book, his first, in 1979 and valued the support given by his dean, the university registrar, and Professor Fred Ridley in the politics department. He offered his first two chapters to a publisher but they turned it down saying it was "too popular", not an academic textbook.

But Penguin were looking for that kind of book and gave him an advance. At the end of 1982 he rewrote the first and last chapters, the last on Penguin's orders, because he had tried to draw conclusions that were not there, and given it an international perspective that could not be justified.

He found the history sections in the book relatively easy to do, a lot of good research having gone before him. But the bulk of the research for the book began with his extensive newspaper cuttings file, which he had started in 1970. He also used *The*

Times index, Kew library and law journals extensively. "In a large number of cases I had to rely on the press being right," he said.

He also went to Government departments. Most helpful was the Home Office statistics department, and the district audit was good. "But I found the more central and more self-important the department, the more trouble I got."

Generally though the police were helpful, but local authorities not, the latter because they felt that corruption then stained them all.

He knows he has not written the kind of book an academic is expected to write, but he did not intend to, nor does he think his book should be seen as having less authority as a result.

His last chapter summarizes the deficiencies in procedures and argues that democracy and individuals must suffer if we allow corruption to flourish and ignore its widespread nature. Another Poulson is inevitable, he says. But he stops short of saying what should be done. It is not a polemic.

"As I point out in the book, if you want marginal change, you only have to implement Salmon (the Royal Commission set up in 1975 to look at standards of conduct in public life: it made wide-ranging recommendations extending court powers on gifts, making an offence of corrupt misuse of official information, giving police greater powers, disclosure of interests and gifts, greater public access to council minutes).

"But to stop corruption or bring it back to insignificant levels would mean the reconstruction of British politics. People now say there is a tolerable level of corruption. Twenty years ago people would not dream of talking about tolerable levels."

"So I have not bothered putting in a prescription. It is a waste of time. Corruption is a permanent part of



Alan Doig . . . too old to switch to journalism

British politics.

"Corruption chases money. It is nothing to do with rotten apples. It is also a cheap way of getting large sums of money, and cheap way of avoiding the law. Just think . . . £700 for accepting a £3m contract."

He is very critical of the role of the newspapers in exposing corruption, especially, he says, as they parade themselves as the watchdogs of public life.

"I have yet to see a newspaper sued for naming the guilty man or woman. This is partly because Fleet Street is so London orientated. You cannot concentrate on the local issues."

"The day of the investigative team is over. The only two left are Lashmar and Leigh on the *Observer*. The *Sunday Times* insight team has been wound up."

He does not see local papers being able to fill the vacuum because, existing as they do, on stories from their local contacts, councils and industry, "you do not bite the hand that feeds you". He says the boards of these papers are also part of the local establishment, which militates against the story being used.

"As well as this, these days young people do not know how to conduct investigative journalism - you have to know how to go about it."

He says the inertia of the system will always militate against disclosure. People do not like their procedures or working practices upset, they resent the intrusion that greater scrutiny of their work will involve. Those that report acts of corruption rarely benefit, and may often suffer themselves.

"And if Parliament itself will not discuss the subject, then it diminishes the importance of corruption and the effect it has."

Alan Doig would like to pursue his interest in corruption, particularly the role of ethics in public life, but the demands of his young family mean that he could not write another book in his spare time.

He agrees that he should have decided 10 or even 20 years ago to become an investigative journalist. But, he says, at 36, he is now too old.

"Corruption and Misconduct in Contemporary British Politics" by Alan Doig, published by Penguin Books, £4.95.

Brian Morton looks at the latest work by scientist and novelist Martin Hart

There's a sour academic parlour-game called "Name Ten Famous Danes". Since no one gets much further than Carl Nielsen, Kierkegaard and Jesper Olsen, the joke is sprung quickly enough. Needless to say, it's a joke equally (and equally unfairly) applicable to any one of a number of small nations.

On the face of it, the Dutch do rather better than most: Vermeer, Rembrandt, Van Gogh and Mondrian. Yet while painters spring readily to mind, for the average English reader the Dutch literary tradition begins to falter with Erasmus. Martin Hart finds nothing surprising in this and is quick to forgive one snobbish ethnocentrism. "With so many wonderful writers in English, why would anyone want to read a Dutch novel?" With the publication in English of his latest book, he may wish to change his mind.

Bearers of Bad Tidings is a powerful autobiographical novel, the account of a son's coming to terms with his father's cancer and imminent death. The trouble of the original title are concealed in English: *De Aansprekers* were those who bore bad tidings to bereaved families and their friends. The father in Hart's story is a municipal clerk, a man whose life is a struggle to survive, only the knowledge of his own coming death is hidden from him and vomited to his son instead.

For all our unfamiliarity with the traditions to which it belongs, it is immediately clear that *Bearers* is steeped in Dutch life and lore which makes it rather more surprising that Martin Hart should be so unreservedly enthusiastic about English writers and critics. The only Dutchman he discusses is J.M.W. Coetzee, who writes in *The Englishman's Boy* of his father, a

Going Dutch

Hart, to a form that won't seem out of place on a British publisher's list. His awareness of that tradition, though, is strikingly individual and original. The writers he values are a far remove from any Great Tradition; a map of English literature centred on Dickens, Scott, Hogg and Galt as well as enlarging the domain northwards suggests a vision focused not on class and manners but on darker metaphysical concerns. Add Trollope, Updike and Faulkner and the whole picture tilts once again.

Unembarrassed by our determined monolingualism, Hart is equally unaffected by the abiding two-cultures prejudice of the English. He has very successfully combined his work as a novelist and critic with a career in biological research and teaching at the University of Leiden. To a scientist, and a scientist who writes fiction, the great virtue of a figure like Trollope is the accuracy of his perceptions; Updike and Faulkner are both concerned with the borders of religion and rationalism and Updike in particular has drawn much of his inspiration from the presence of a powerful, Dutch father in his Eastern seaboard community on the Eastern seaboard. Hart sees no inconsistency between rigour and imagination and scientific accuracy. Indeed, his earlier and better-known English publication was a book on rats marked by a wholly unexpected combination of scientific information and imaginative insight.

Hart's scientific work has been concerned largely with the ethology of two species, rats and guinea-pigs, and with general analysis of their behaviour. The scientific and the scientific, in

says, "are not two people, but one." He is convinced that there are insights and techniques culled from the study of lower species which are directly applicable to human society and relations. If that sounds like "ratonomorphism", last and most vicious of Arthur Koestler's three Rs, it's important to recognize that while Hart doesn't place his human (and rational) subjects in behavioural sinks and Skinner boxes, neither does he anthropomorphize his rats. He sees them as a distinct cultural phenomenon, a species quite specially bound up in its destiny with ours and yet one which has acquired a fearsome and totally distorted reputation. From Hamlet to the terrifying apothecary of Orwell's Room 101, the folklore and mythology of the rat combine in a way that says a great deal about our other projections.

Martin Hart is a long way short of being the Newton of the Low Countries but he has one or two things in common. Hart is now a best-selling and critically respected author in his native country, he, too, has had his moment with the feminists. Again it was an uncomfortable inference from his scientific work that brought him hard up against the grain. *Woman Does Not Exist* was his fiercely controversial essay on the feminist movement, a work not likely to be translated into English but written with a remarkably erudite knowledge of the Anglo-American feminist polemic. Hart's thesis was simply that the much-discussed differences between male and female behaviour - rationality, creativity, aggression, nurturance, were not, as feminist specialists had

and physiological. In experiments, it had become clear to him that certain behaviours could not be eliminated even at extremes of reward and punishment. The feminist critique of writers like Mailer, Lawrence, Henry Miller had focused on what seemed to be an inconsistency between an aggressively existentialist view of maleness and a thoroughgoing essentialism in the treatment of the female: men chose their destiny; women accepted theirs. In the face of that obvious and unacceptable anomaly, Hart sets up a rigorous biological determinism relieved by our common ability through reason and creativity to transcend that condition, even if only tragically. Such a theory was never likely to find its place in a liberal consensus and Hart was savaged for it.

It's always entertaining to reveal the religious wolf hidden beneath the secular fleece and Martin Hart makes no bones of the fact that his theory contains a substantial echo of original sin and Calvinist predestination. Hart lost his faith as a young man, not through any political conversion (he remains resolutely unpolitical) but to a growing attraction toward both scientific rationalism and imaginative creation, both Calvinist and Dema.

It was *A Famous Dane*, Søren Kierkegaard, who had brought him to his final passionate confrontation with his religion. Hart even learned Danish so as to bypass the unsatisfactory Dutch and German translations. Kierkegaard ranged human life and behaviour along a scale of three: between the aesthetic, the life given over to pleasure and the spiritual, in which everyday life is transcended, he placed the ethical, the life of actual self, the existence of a man between imposed morality and the seeking of immortality.



Martin Hart . . . best-seller

Though his thinking has shifted dramatically since as a young church organist he first encountered Kierkegaard, that concern with individuality and with the reality of individual action has survived. Hart responded to the modernity of Kierkegaard's thought, its recognition of the difficulties of living between complete aestheticism and the ultimacies of unrestricted scientism; stuck between the two, we have totalitarianism and the bomb hanging over us. The focus of Kierkegaard's philosophy was what he called "the teleological suspension of the ethical", a willingness to renounce human needs in the service of some higher order expressed for Kierkegaard in Abraham's willingness to sacrifice Isaac. It's no coincidence that Martin Hart's newest novel should concern a father, a son and death.

"Bearers of Bad Tidings" and *"Rat,"* both by Martin Hart, are published by Allison & Busby.

John Hope Mason looks at the life and work of Denis Diderot, who died in 1784

Portrait of a man of words



Frontispiece of the *Encyclopédie*, 1751

Paris in the middle of the eighteenth century was in many ways similar to Vienna in the early years of this century: the capital of a state which had once been rich and powerful but was now beset with crisis, stifled by archaic institutions which resisted change and prevented reform. But political stagnation went hand in hand with intense intellectual activity. The very inertia and inflexibility of the *ancien régime* stimulated speculation. From the mid-1740s an unprecedented number of major works - by Montesquieu, Voltaire, Rousseau, Condillac and Buffon - appeared in Paris or (for reasons of censorship) were published outside France but aimed at Paris. The range of their interests and the assurance of their style revealed a new sense of confidence, and this was even more evident in the great collective undertaking of the *Encyclopédie*, the first volume of which appeared in 1751 and the chief editor of which was Denis Diderot.

The *Encyclopédie* set out to give an account of human knowledge that would "change the general way of thinking". In place of accepted tradition and unquestioned prejudice it advocated rational enquiry and an attention to facts; these alone could determine the truth. And the truth that mattered was less metaphysical than topical, the viewpoint to take was not that of God but of man. This is not to suggest that the articles were militantly atheist, because they were not. Most of the contributors seem to have been deists, believing in God but not in Christianity, and for reasons of censorship the few attacks there were on religious faith had to be muted, disguised in irony or innuendo. What mattered was less the issue of God's existence than the habits and practices of the Catholic Church.

The business of men was to act in the world and on the world, to improve their lot and that of their fellow men. In place of restriction and privilege there should be toleration and freedom. Whatever obstructed the free flow of ideas, like censorship, or of goods, like tariff barriers, or of jobs, like guilds, was harmful. Whatever increased understanding, such as the more precise definition of language, was beneficial. Above all, the practical realities of life (rather than the speculative possibilities of the afterlife) should receive their due. Information about new agricultural methods and descriptions of manufacturing processes were provided to raise the status of, and increase general interest in, technology. There was no anticipation here of the vast advances to come with the Industrial Revolution but there was certainly the confidence in human potential and the interest in innovation which were preconditions of the Industrial Revolution's later success.

The *Encyclopédie* was inspired by the belief that knowledge could make men better. The underlying impulse was moral. To neglect the contribution made by the artisan or the labourer to the general good was not only ignorant or ill-advised, it was also unjust. Other articles denounced slavery or the judicial use of torture. Neither social nor political matters were dealt with extensively (and virtually none of such articles was radical) but that was as much a result of attitude as of censorship. For the contributors believed in the power of the printed word to change opinion, and so bring about wider change. Privilege and authority could give way to justice and humanity if only the truth was read or heard or known. The world did not have to be determined by tradition and precedent, human beings were not inherently fallible or sinful: these were the basic values shared by the writers of the Enlightenment.

By the time the first volume of the *Encyclopédie* was published Diderot was approaching 40. He had come to Paris in his late teens - from Langres (near Dijon) where his father was a master-cutter - first to complete his education and then to train as a lawyer. He had soon abandoned this career to pursue his literary ambitions but it was a long time before he had anything to show for these. Like his close friend Rousseau he was a late developer. The advantage of this was that he was able to follow up a wide range of interests. Before 1751 he had published translations on medicine and philosophy, speculations on mathematics and epistemology, a pornographic novel, and works on religion, one of which, *Le tre sur les aveugles*, attacked the most prevalent argument for the existence of God, and had earned him a short spell in prison. The scope of

these writings had made him uniquely suited for his great editorial task.

His appointment as chief editor brought a change in his fortune and in the 1750s Diderot's ambitions began to be fulfilled. In addition to the massive editorial labour and his many individual contributions he also found time to publish works of his own on scientific method and the theatre. Like the *Encyclopédie* these displayed an invigorating self-assurance. The former, *Pensées sur l'interprétation de la nature* took account of the decisive shift in scientific thinking which occurred in these years, the move away from the Cartesian and Newtonian mechanistic model of inert matter set in motion by external forces towards a vitalist conception of nature activating and organizing itself. The latter, two plays with theoretical essays attached to them, brought to the drama the same concerns which were expressed in the *Encyclopédie*. In place of the refined, convention-bound world of the French classical theatre, he wanted a realistic drama, spoken in prose, reflecting the world which most of the audience inhabited. Like the *Encyclopédie*, there was a moral purpose, for Diderot shared the common assumption that there was a basic consonance of moral and aesthetic values. Plays which were aesthetically satisfying would also be morally beneficial.

Volumes of the *Encyclopédie* appeared more or less regularly through the 1750s but in 1759 came a crisis which shook Diderot severely. Opposition to the *Encyclopédie* had always been strong, now it grew to such a pitch that publication was halted. (Tacit approval was later given for the remaining volumes but they had to be distributed unofficially outside Paris.) Rousseau and Diderot quarrelled bitterly and their friendship ended: the former's novel *La Nouvelle Héloïse* became a European bestseller, while the latter's play *Le Père de famille*, a would-be demonstration of his dramatic theories, was an ignominious failure. Then a play ridiculing the philosophes in general and Diderot in particular was staged at the Comédie-Française; it was a resounding success. All Paris laughed at the pretensions of these arrogant intellectuals. The decade that had begun with confidence and zest ended in disillusion and failure.

It seems to have been in the crisis produced by these events that Diderot began work on *Le Neveu de Rameau*. This astonishing dialogue depicts a meeting between Diderot and the nephew of the famous composer, an eccentric down-at-heel music-teacher who despises all that Diderot holds dear. To him enlightenment and education are a waste of time, self-interest rules and all that matters is surviving in comfort. Heredity decides character and art, far from improving us, is best for teaching us tricks and deceptions. Nor is this all, for the nephew shows that there is an aesthetic delight to be enjoyed in what is morally repellent. The attack on the values of

the *Encyclopédie* and Diderot's theatre writings is wide-ranging, incisive, abusive and witty. The shifts and turns of the dialogue both dazzle and bewilder. And the questions raised (but not answered) are profoundly disturbing. For there are certain matters on which both men agree. The nephew cannot be dismissed as merely reactionary nor Diderot (as he portrays himself here) as an idealistic dreamer.

With the publication in 1765 of the last volumes of text of the *Encyclopédie* Diderot was free to turn his attention to a number of issues that had come to hold a special appeal for him. He had worked his way through to a thorough-going materialism: there was no God, the universe was a self-organizing entity, man and nature were one substance. But how exactly does life arise? How does inert matter become living matter? How do physical sensations develop into complex ideas? These questions led to the three dialogues known as *Le Rêve de d'Alembert*, in which he threw out remarkable suggestions about evolution and the structure of matter. He had followed closely developments in medicine, biology and physiology, in particular the work of the Swiss scientist and poet Haller, and these provided a springboard for his own speculations. The concept of a self-generating, ever-changing nature had a personal attraction for Diderot.

His conviction that we are part of nature and that nature itself has an essential, underlying order, gave rise to another problem, that of human freedom. If we are products of a regular, law-governed universe, how can we have a freedom which plants and animals lack? The issue of determinism and free will crops up again and again in Diderot's writing and was a major preoccupation of his novel *Jacques le fataliste*. This is a chaotic and entertaining book, influenced in part by *Tristram Shandy*. It revolves around a servant Jacques who has an unshakable belief in determinism, but it depicts the world as a random and unpredictable place where the expectations of the characters and reader are constantly upset by the novelist's interruptions.

A further problem that preoccupied Diderot was that of the relation between nature and society: if we are products of the natural order how is it that so many of our "natural" impulses seem to be incompatible, and why is human society an obstacle to so many of our needs and desires? To this question Rousseau had given a brilliant answer in his *Discours sur l'origine et les fondements de l'inégalité*, one of the major intellectual achievements of the eighteenth century. It was an answer which Diderot does not seem to have understood, and nowhere was he able to provide an answer of his own. His most extended treatment of the issue, in the *Supplément au Voyage de Bougainville*, merely juxtaposes a (more or less) healthy natural society, that of the natives of Tahiti, with contemporary France. But the contrast brings no understanding.

Neither the *Salons*, nor the *Supplément*, nor *Jacques*, nor *Le Rêve* nor *Le Neveu de Rameau* were published during Diderot's lifetime. His contemporary reputation was based mainly on the *Encyclopédie*, which was one of the great publishing ventures of the century and went through numerous editions after the first printing. As its chief editor, Diderot became famous as the *philosophe par excellence*, and after his contract for this work expired he received financial support from Catherine II of Russia. In 1773 at her request he went to visit her in St Petersburg, the only time he travelled outside France.

This experience, seeing Holland (where he stayed for several months) and Russia, and discussing political matters with Catherine, encouraged



an interest in politics which was a feature of Diderot's later years. It was an interest he shared with many of his contemporaries as the situation in France became more critical. It cannot be said, though, that Diderot had much to offer by way of solution. The rhetoric of injustice was impressive and sincere, but the principles of his politics remained what they had been for most of his adult life: a belief in a limited monarchy which allowed general freedom, with government positions open to talent and the tax-burden distributed equitably.

"Every century has a spirit which characterizes it," wrote Diderot in 1771, "the spirit of our century seems to be that of liberty." Freedom of thought and expression, and political and social freedom - these were indeed basic principles for Diderot as they were for all the philosophes. However, their sense of what they opposed was much clearer than what would follow when the forces of privilege were swept away. But then no one thought that these bodies would disappear in the foreseeable future. Diderot and his generation had no expectation of sudden change; looking into the future gave few of them a strong sense of hope. America might start afresh but America was young; Europe was old and could expect only limited improvement. It was different for younger men like Turgot or Condorcet; they did believe in unlimited progress. Diderot and his generation did not.

Nevertheless, the difficulties ahead did not diminish their confidence in human potential nor, for the most part, did it undermine their sense of achievement at what had been accomplished. It was generally felt that from the middle of the century the philosophes had brought a new force to bear on French life. The status quo had been weighed in the balance and found wanting and the philosophes had led the way in doing that. The concept of the intellectual as man of action, as a public figure occupied with public issues, owes much to their activity and example. Whatever the differences between them - and their quarrels were no less acute than quarrels between writers usually are - these did not detract from their shared sense of purpose, their belief that their writings could, as Diderot said, "bring about a revolution in man's mind."

It was not long before the ideals of the Enlightenment were abused and derided. A caricature of the Enlightenment was erected at the end of the century, portraying the philosophes as simple-minded idealists who thought that with a handful of theories they could remake the world. This caricature naturally gave a central place to Diderot. But then a curious thing happened. As his unpublished works came to light - Jacques in 1796, *Le Neveu de Rameau* in 1805 (in a German translation by Goethe, then in 1821 in French), *Le Rêve* and his wonderfully vivid letters to his mistress Sophie Voland in 1830 - a new Diderot was discovered, a warm-hearted, open-minded writer with an intimate style and an infectious personality.

Only recently has a coherent, overall picture of Diderot begun to emerge. Over the last 40 years many details of his work have been elucidated and, as the caricature has gradually been discarded, people have become aware how full of doubt, anxiety, hesitation and conflict the Enlightenment really was. On almost everything except their opposition to the *ancien régime* the philosophes disagreed. How much was universal and how much was relative, how much was constant and how much was subject to change? The answers differed. Pessimism about the future, hopes for reform, Utopian visions - all can be found in the writings of these years. A very large number of these positions can be found in Diderot's writings alone. And it is this, perhaps, more than anything else, which makes him such an attractive figure. The range of his interests, the versatility of his thought, the warmth of his conversation, astonished his friends and all who met him.

And so do his writings now. In a memorable but little-known passage Diderot once described the imaginative man as someone who "walks about in his head like a busybody in a palace, over moment going off in a different direction at the sight of something of interest". The words could be taken as a self-portrait.

The author has also written *The Indispensable Rousseau* and *The Irresistible Diderot*.

**John Emsley and
Clare Jenkins**
offer some advice
on the problems
of university
library funding

Book of Records! Chemical Abstracts costs around £5,000 per year and the next cumulative index is forecast to cost at least £7,000. Nor is this the only abstracting service for chemists. Others are the German compilations of organic chemistry (*Reilstein*) and inorganic chemistry (*Gmelin*) that are equally expensive.

Library issue and attendance figures at King's College, London, indicate that undergraduates tend to consult books more than periodicals and that on-science students borrow three times as many books as science students (per head). On the other hand postgraduates, staff, and others actively engaged in research are the main users of journals, and this pattern is independent of subject area.

The formula is simple to understand, is based on the needs of the users of the library, and takes into account the nature and cost of the material to be purchased. For example in 1983 for a chemistry department of 200 undergraduates and 100 staff and postgraduates, the allocation would

Until then it seems desirable to erect the barricade of minimum requirement as defined by the formula and hold out defending it as long as we can.

John Ensley is reader in inorganic chemistry and Clare Jenkins is head of library acquisitions at King's College London.

Morris Freedman looks at the paradox facing US linguists

one's own tongue. "If breadth is the desideratum," he wrote, "what single language and culture can do justice to the world's diversity? One cannot really be expected to know any more about the Iranians or the Hopi as a result of taking German."

He pointed out that "the very set of requirements now being reaffirmed is the same set that produced the traditional monolingual American. If two-year or in some cases three-year requirements failed to produce a bilingual citizenry before the 1960s, why assume they will do otherwise now?"

Too many American high school and college graduates remember how the study of French or German degenerated into rote memorizing of quirky idioms and irregular verbs. In recent years, foreign language study has descended even further, into "culture appreciation," the sampling of tacots, quiche, or sauerbraten.

study of foreign languages with those who propose to bar foreigners and their tongues from the country. Students fluent by birth in Spanish or in an Asian tongue, for example, today's prevailing foreign languages in the States, are traditionally discouraged from using or studying their native tongues. Even the National Commission's report says not a word

about bilingual learning, thus completely failing to underpin the President's and the Vice President's recent emphatic advocacy of bilingual education for Hispanics.

In short, the thrust to resurrect foreign language study is glacially realistic. Much of American education still tends to train students in the

as fast as the general population by the end of the century. They approve of a federal judge demising a suit to translate social security forms into Spanish. "The national language of the United States," the judge gavelled, "is English."

Do Americans indeed have to fear, on the one hand, the balkanization of

the country into enclaves like Quebec; as the mayor of Miami, Florida, described his region as becoming "Or should they fear, on the other, their cultural isolation from the world? These are pseudo alternatives."

America has long been a culture of many tongues and dialects. A foreign accent or a regional one is no longer a handicap for high public office. A

The advocates of monolingualism appeal to coarse patriotism, petty xenophobia, and an irreducible ethnocentrism to deplore the fact that at a number of states the driver's license is in several languages. The complaint about the increasing costs of translation in government and business affairs. They point out that "one language minority" will need two

Spanish. Street and traffic signs in major cities appear in English and Spanish or Chinese.

Language remains one of the most independent of social forces. Wherever more than one language or dialect is used, as in India, the British Isles, Switzerland, China, Russia, countries of Africa, Florida, New York City, Canada, or the American south, people and governments develop awareness of and facility in the prevailing ones.

English may have become in recent centuries a lingua franca by virtue of British and American power. But as their preeminence and influence wane and change, Japanese, Russian, Spanish, Swahili, Arabic, or Hindi will emerge here and there.

The United States might do well to emphasize two separate modes in the serious study of foreign languages, to accord with experience, reality, and need. One would be to support the full advanced academic probing of another culture not only through its language but its history, art, politics, social structures, science, and literature. Americans might without loss abandon altogether the present perfunctory high school and college drill in "living" languages.

Also, schools and colleges should encourage students who have grown up with other languages to enrich their linguistic and literary awareness of them. An American tradition has been to help young and old make their way comfortably into the culture by way of sensitive and sensible bilingual programmes. The immigrant experience in all of its aspects has long been integral to the American character. Yiddish, once the underground patois of greenhorn, is now a formal part of the university curriculum; Isaac Bashevis Singer, who writes in Yiddish, is an American Nobel in Literature. He is comfortably bilingual.

The author is professor of English of the

Sue Moss on the attempts to interest more girls in engineering during Women into Science and Engineering year

Today, despite the recession and overall decline in engineering employment, there is a predicted expansion in jobs for engineers and scientists of 14.3 per cent and 12.5 per cent for technicians and draughtsmen/women by 1990 as compared with 1980. By contrast, 94 per cent of women within the engineering manufacturing industry are employed as unskilled, semi-skilled and manual office workers; the very areas which have suffered a severe decline since the 1970s. Moreover, technological developments such as computer-aided design, testing, robotics and fully-automated assembly will mean that this decline in "women's jobs" is very likely to continue.

Against this background, we may consider the main reasons for the sparsity of women in engineering:

1. Sex differentiation in the school curriculum which tends to steer girls away from educational choices which might lead to engineering careers. This continues even though the traditional belief in innate biological differences in aptitude between the sexes, which initially inspired such differentiation, is currently under serious question.
2. Girls continue to under-achieve in mathematics and physics subjects compared to boys even though overall trends in results indicate that sex differences in cognitive functions, especially in relation to visuo-spatial and mathematics ability, are much smaller than earlier studies revealed, and are the result of socializing influences rather than biological inevitability.
3. Lack of interest in trying to keep pace with rapidly developing technologies while raising a family can be a deterrent to a young woman contemplating an engineering career; especially so in a country where creche and nursery facilities are grossly inadequate and re-trainer courses for female engineers returning to work after a career break are currently available only on a very limited scale.
4. Lack of precedents, stemming from the traditional masculine roller coaster and spanners' image of the profession itself also serves to discourage many potential female engineers. Many people see engineering as dirty, heavy work, whereas in reality it is more concerned with supervisory and managerial roles, especially at the professional level.
5. The discouraging effect on girls of male-orientated courses and course information provided by many engineering training and employers who believe that they will only be dealing with boys is yet another contributory factor.

The view that engineering is a man's job is internalized and perpetuated by parents, teachers, media, careers advisers and ultimately by girls themselves, throughout the process of learning. Society's norms and values which dictate, among other things, appropriate behaviour for girls and boys. A great deal of research indicates that socially constructed and firmly entrenched notions of "masculinity" and "femininity" are instrumental in influencing the self-image, subject



Given this "masculine" image of science and engineering plus social pressure to conform to archaic sex stereotypes, it is little wonder that by the time schoolgirls have chosen subject options, many opt out of the physical sciences and into modern languages or arts which, by tradition, are considered "softer" options, suitable for girls.

Thus, for a girl to consider at adolescence such a masculine career as engineering deviates from the feminine norm in a patriarchal society and involves her in a contradiction. Obviously not all adolescents will be victims of this situation, but through overt or subtle social pressures to conform, the vast majority of girls do not even consider engineering as a suitable career for themselves.



The belief in the unsuitability of engineering for girls is so institutionalized that at some schools traditionally "male" and "female" options such as engineering and typing are timetabled against each other thus reducing the chances of cross-sex choices being made. Other schools reserve certain craft subjects for one sex only.

So different for both sexes is this experience of socialization that in answer to a questionnaire sent to heads of electrical, civil and mechanical engineering departments at all UK universities, one professor stated: "We have noted that some of the [training] weaknesses of some women are similar to weaknesses sometimes shown by men from overseas who have been brought up in a non-technological environment . . ."

The overall impression received from respondents regarding possible training difficulties was that any problems which arose during training were not due to an innate lack of engineering ability on the part of women, but were the result of sex stereotyping which tended to leave women without early practical engineering experience. However, more than 90 per cent of respondents said they had not experienced any special difficulties in training female engineering students and welcomed their applications.

For those women who do break through the barriers and become engineers, what problem

Research shows that many companies (especially large, which tend to be less traditional than the smaller ones) appear favourably inclined towards recruiting women engineers – even though very few provide flexible working arrangements or creches for working mothers. Further, although areas of prejudice do exist eg regarding promotion prospects or on site work, there are signs that women are becoming more integrated into the engineering profession. It seems that problems women encounter are not based on the grounds of sex alone, but more on marital status and whether they have children. In addition, in the past, women engineers suffer most because their technological expertise rapidly becomes outdated if they decide to stay at home, perhaps due to shortages of child care or lack of part-time work. Career progress continues to be mouldered round a typically male life-cycle despite the fact that today women comprise approximately 40 per cent of the labour force and 26 per cent of this proportion are

In WISE year the prospects for women within engineering and science will come under close scrutiny. The EOC and the EC intend to play a national advisory and coordinating role and various activities are planned with the aim of encouraging individual organizations and companies to develop projects of their own to induce more girls and women to consider engineering and science careers.

The 200 WISE projects in the pipeline include national competitions for girls' engineering projects; school-industry link schemes, where girls can gain insights into engineering companies by spending time on the premises; teaching materials and case studies of women in engineering to provide girls with more role models; visits to engineering careers conventions; school visits by women scientists and engineers; and local authority-wide initiatives for in-service teacher training to alert teachers to the dangers of sex-stereotyping. The EOC's main contribution to WISE will be a national publicity campaign in teachers' journals and teenage and adult magazines and they will also provide posters, leaflets, booklets and a range of information for teachers and pupils on the use of information technology and engineering.

The EOC also supports the view that it would be valuable for all young people to do science until the age of 16 and believes that girls' lack of hands-on experience of science and technology could be gained through the Youth Training Scheme and the new Training and Vocational initiatives for 14-18 year-olds.

However, despite the various initiatives mentioned above, it is essential to ensure that girls think about careers in engineering and science, it seems insufficient simply to aim at advertising literature at young women in the hope that this will effect a significant increase in the number of female engineers and scientists; fundamental change in the numbers of women entering such traditionally "male" occupations will occur not only through changing the masculine image of engineering but also by challenging the sexual division of labour itself, and in particular women's unequal role within the patriarchal family. For so long as women bear the main responsibility for domestic labour and child care they will continue to be disadvantaged *vis-à-vis* men and unable to take full advantage of equal opportunities in the labour market.

In this connexion, some advocate paternity leave, more Government-sponsored child-care, tax relief on the cost of child care and the need for

men to take an equal share of domestic responsibilities. However, in the present economic and political climate it seems highly unlikely that any resources will be allocated to these vital areas. For the foreseeable future women will probably have to rely on personal initiative and the discretion of individual employers.

In this connection, I asked Lady Platt, chairwoman of the EOC, what was being done to help female engineers and scientists return to work after career breaks. She confirmed that a working party is currently studying this issue and it will be the focus of a campaign in 1985. Meanwhile, who does Lady Platt think are the ways to help female scientists/engineers?

She said: "There are various factors to explore, for example, on the lines of the NATWES schemes one of which allows men or women who intend to be out of the banking sphere for around five years to raise a family to be guaranteed a offer of re-employment."

Under this experimental scheme the ban re-employs individuals at the level of appointments at which they left and will provide training on their return. During absence contact is maintained through regular information packets and invitations to local social events. The scheme is restricted to those believed to have senior management potential and applicants will normally be expected to have completed five years' service and on return have a minimum of 20 years to serve before retirement. Participants undertake to provide a minimum of two weeks paid relief work each year and attend an annual one-day seminar. NATWEST may review inclusion on the scheme if a change of residence makes the assessment of an individual's career potential unrealistic.

Lady Platt also thinks that job sharing is a very useful idea and "... needs to be done on a flexible scale". Part-time or home-based work and flextime are other possibilities. Open University refresher courses are also important in ensuring that women's talents and experience are not lost to the engineering industry.

Encouraging as the recent interest in increasing the numbers of women in engineering and science may be, it could be asked to what extent is it the result of a shortage of suitable men for those occupations rather than notions of women's inequality. The *IEE News*, asked in December 1977: 'Are Women the Answer to the Engineering Manpower Shortage?'

Similarly, the Society of Women Engineers America reported that during the late 1960s/early 1970s engineering colleges and universities found themselves with a declining enrolment. The solution was to look for new sources of students: women and minorities.

Although in fairness, the active involvement of colleges and universities was partly a result of women's movement which heightened national awareness of discriminatory practices against women, it seems that no significant change has occurred in the enrolment of women engineers. Students until engineering education institutions became actively involved in face of an overall decrease in engineering enrolment.

In the UK, given the fact that keen interest in recruiting more female engineers seems to have occurred at a time when there is a shortage of suitably skilled personnel, it may be that WISE is more concerned with pragmatism than altruistic notions of equality for women.

The author is student careers officer at North London Polytechnic.

A jump into deep water

Modern Art and Modernism: Manet to Pollock
Open University Arts Third Level Course
First programme tomorrow, BBC2, 2.45pm: Courbet

The Open University is under considerable pressure at the moment, not least to get as much mileage as possible from courses which might have benefited from a measure of planned obsolescence.

"Modern Art and Modernism" is a brave attempt to introduce students not just to the major works of twentieth-century art but to the complex critical debate that surrounds the subject. Course organizers hoped that it would have a life (in this form) of eight years or less, in the present climate it may have to last them twelve. The course is set out in much the usual way, centring on prepared texts, a series of television films, and radiovision (broadcast talks complemented with keyed files of monochrome and colour plates). What is distinctive is the sense that the study of art is bound up not just with the social conditions of its

origins but equally with the theories and critical revisions that comment upon and restructure artistic development.

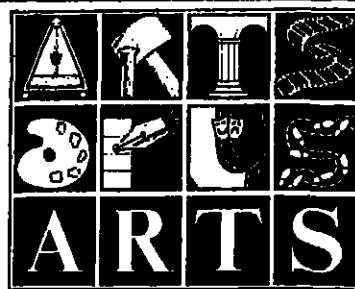
It's no accident that the American critic Clement Greenberg should figure so prominently in a crucial programme on Jackson Pollock. Greenberg and Harold Rosenberg (nicknamed Greenmountain and Redmountain) were seminal influences on the artists they surveyed; they were both instigators just as much as critics. In *The Painted Word*, his conservative chic account of modern art, Tom Wolfe prophesied that one day tags and quotes from Greenberg, Rosenberg, Hilton Kramer, Rosalind Krause and others would adorn galleries in lieu of oils on stretched canvas. Conceptual art had already pre-empted his joke and underlined the crucial place of theory in any modernist aesthetic.

The producer of the OU series, Nick Levinson, is anxious to avoid the kind of simplistic correlation of "art" and "society" which has been criticized in other, earlier OU productions. To avoid this, the OU team have deliberately commissioned films from experts

not directly involved in the preparation of course material to present highly personal and tendentious views of the topics selected. The effect, it is hoped, will be a greater awareness of the wider functional and aesthetic issues and less dependence on canonical or authoritative "readings" of individual works.

The span of the course is (uncontroversially) that of the modernist movement from Edouard Manet to Jackson Pollock. Pollock may have been the first post-modernist; he was certainly the last major modernist, the culmination of a tradition of painterly painting that began with Impressionism and which saw the canvas as an overall field rather than as a passive ground on which figures, representational or narrative, were placed.

So the orthodoxy runs. It is often suggested that Pollock fell from the grace he had achieved with "No. 1 1948" and "Blue Poles" when he returned in the 1950s to a degree of representation. The modernist orthodoxy tends to forget that there is another quality in Pollock's (and the others') work, a deeply rooted sense of historical and political engagement. Pollock painted floats for the Com-



One man in his time...

All the World's a Stage: one man's journey through the theatre, in thirteen parts
BBC2 Sundays 8.35pm

The first line of Jacques's famous speech is a paradoxical title for Ronald Harwood's television series on the development of theatre. "The theatre", he stated categorically in the rather unsatisfactorily fragmented first episode, "is needed", yet we were also told that only 5 per cent of people in the UK and 2 or 3 per cent in the States ever go to the theatre. This does not necessarily begate Mr Harwood's opinion that theatre is necessary for the health and balance of society. It's just that it goes on in many places besides theatres.

Well now, if only 5 per cent of people are at the theatre, what are the other 95 per cent up to? Why watching television, of course, so they can, theoretically, be "sold" theatre via the screen. The programmes confess to a missionary motive, being designed "for people who've never been to the theatre, for those who've lost the habit of theatre-going", but they are also meant for those who "already love the theatre".

And herein lies another difficulty. Anyone who has read anything at all about the genesis of theatre cannot but be irritated by Mr Harwood's having apparently discovered and highlighted the connection between religious ritual and the growth of the drama in Ancient Greece. On the other hand, the uninitiated will be astounded to find that the larger-than-life saving of the air (live theatre is not flattered by the close scrutiny of the camera) as seen in *The Dresser*, Ronald Harwood's very own play fortuitously opening on Broadway, followed by much mutual congratulation by cast, author and hangers-on at the first night, represents a pinnacle of culture.

Few prospects could be more off-putting than theatre people, rheumy-eyed, slapping each other on the back and waving away the fans. There have been three episodes so far. The first flashed forward disconcertingly to short extracts from plays to be shown in later episodes. Weighty ideas were expounded by theatre luminaries from around the world and there was a fascinating section on the Baroque dance of Ball to point up the links between ritual and performance. It was a leisurely introduction, indicative of time and money, in abundance, but I doubt if it hooked anyone uncommitted for the rest of the series.

Enter Dionysus traced the development of Greek theatre from the ritual worship of the anarchic god to recognizable drama with some extracts from crucial plays, including specially directed scenes from *The Bacchae*. At least here was unity of place and purpose, a story to be told and an extraordinary character described as "holy and unclean" by Michael Elliott, both destructive and life-giving, as its focus. Theatre was shown to be a threat to the established order, an expression of those feelings and ideas which human beings struggle to express in the normal course of things. But there were disappointments: to be told that the reason for the superb acoustics of the typical Greek theatre is that the Greeks wanted to communicate just isn't good enough.

Mr Harwood's comedy took us swiftly from Aristophanes and Menander in Greece to concentrate on the Romans, especially Plautus, whose influence is clear enough on later ages of theatre. Enter Frankie Howard. Some of this was certainly fun with F. Howard and Peter Jones sparring verbally and improvising outrageously in specially adapted sequences from Plautus's *The Menaechmi*. But, as before, there were too many shots of Mr Harwood standing in enviable locations (sometimes plumper than at other times - the series took a good four years to make) speaking straight to camera in the sunshine.

Well, this is "one man's journey through the theatre" and that pre-empt some criticisms. It may seem churlish, but some of us might have preferred another guide.

Heather Nell

Brian Morton



Designs for living?

Four Rooms
Liberty, London

The British have developed a tendency to take their environment for granted. Italians might go in for progressive interior design, but we will have none of it. Certainly we don't seem to get any of it, except when it arrives like an exotic import, to be nurtured in the hotbeds of gallery space, too fragile to survive our severe northern climate, and still more severe market.

The Arts Council has asked four contemporary artists each to design a room. According to Michael Regan, who conceived the show, part of its aim is to reverse postwar trends in British art to narrow specialization, and to rediscover a native tradition of synthesis between "fine art", "crafts" and "design". The Liberty performance art, political statement and sculpture invade the province of interior design, and the result is a series of "spaces" refreshingly hard to categorize.

Marc Chaimowicz's room has a cinematic feel, its cool tones and sharp contours suggesting the elegance of 30s Vienna, or possibly Paris. This impression is deliberately heightened by the inclusion of several pieces that actually date from the 20s and 30s.

Chaimowicz's space seems hermetically sealed by its aesthetic fastidiousness (it's the only room we are not allowed to enter). The room's meditative aspect is enhanced by references to religious space: a cross delicately etched in one wall and a stained-glass panel set in another seem to tell us that this is a shrine of some kind. Back-projected slides across a screen feature a couple engaged in various everyday activities; the spectator is turned into a voyeur who can only gaze at the scene's significance. The slide show gives Chaimowicz's interior a mysterious choreography; as in much of his performance art, a living space is activated by the suggestion of relationships it has witnessed.

The most striking item is a crazily toppled writing desk, which for Chaimowicz symbolizes "the futility of writing". Furniture becomes allegory, and the desk depicts a surreal flavour to the piece, suggesting that the artist's elusive, fragmented method is born out of a disillusionment with language. If Chaimowicz concentrates on the visual potential of his interior, a room

haunted by spectral inhabitants, Richard Hamilton examines the politics of space. No longer a cinematic observer, the visitor is alternately victim and oppressor in Hamilton's grimly institutional clinic. We walk into his room to be confronted by a bed (or is it an operating table?) over which a television monitor is menacingly suspended. Margaret Thatcher appears on the screen delivering what one assumes is a heartening speech to the nation (thankfully the volume is turned down). Big Sister is watching you.

Walking behind a glass-pannelled screen, or is transformed from gleaning to observer, armed with a digital monitoring device that looks disconcertingly like a Bosch oven control. Hamilton made his name during the Pop Art explosion, when artists were fascinated by technology's Disneyland of consumer durables. Now he seems to be taking his revenge on technology: instead of liberating us into worlds of unknown pleasure, it traps us with its systems of surveillance. Definitely a room for 1984.

We leave Hamilton's room chastened and cynical, but Anthony Caro's "room", actually a sculpture you can get inside, returns us to childhood. Caro calls it "The Child's Tower Room", and it looks like an extravagant wooden toy. Once inside, up some spiral steps and into its chamber, one feels too big, yet comfortably enveloped. While Chaimowicz's and Hamilton's spaces are respectively cinematic and polemical, Caro's is pleasantly tactile (the wood even smells nice).

Completing this kaleidoscope of spaces, Howard Hodgkin's room comforts us for not being children with the pleasures of decadence. His den, all the colours of luxury, is crammed organically with furniture covered in what looks like a blue/black leopard-skin design. The lighting levels rise and fade suggestively, but as he says, "Sadly, because it is in a public place nothing very exciting can go on in it." Still, you can buy his furniture at Liberty.

Andrew Graham-Dixon

"Four Rooms" is at Liberty until March 10. Thereafter it tours to Wolverhampton, Southampton, Newport, Aberdeen and Sheffield.

BOOKS

The Rembrandt of English prose

by W. W. Robson

Thomas Carlyle: a biography
by Fred Kaplan
Cambridge University Press, £25.00
ISBN 0 521 25854 5

Carlyle's stock has fallen very low. In Harry Blamires's comprehensive *Short History of English Literature* (1974), which has room for Lascelles Abercrombie and Robert Bage, he is not even mentioned. Why do so few people read Carlyle? Certainly *Sartor Resartus* is not as readable as Dick Francis's latest novel, but neither are *Tristram Shandy*, *The Golden Bowl*, or *Ulysses*, yet they are still read. It cannot be style alone that puts people off him.

It may be a matter of genre. Poems, plays, novels of the past are more read than non-fiction. And labels can help a writer, and the Victorians themselves found it difficult to classify Carlyle. They were agreed that he was a Teacher, and in the National Portrait Gallery (which he helped to found) he figures as a Prophet. And he has often been called a Sage, especially since John Holloway's *The Victorian Sage* (1953). But none of these terms makes it very clear what kind of writer he was.

Perhaps it is enough to say that he was an essayist and a historian, and that his essays and his history certainly must be, but the others are "Mahomet", Dante, Shakespeare, John Knox, Samuel Johnson, Rousseau, Burns, Cromwell and Napoleon - no Germans there. And of course if you actually read the book you will find that it has nothing to do with Nazism, or Nietzsche, or anything of that kind. It consists of what we would now call cultural anthropology.

Antisemitism? Here we must distinguish. Carlyle had nothing but admiration and reverence for the historic Judaism of the Old Testament - the prime force in the moral formation of the Annandale Presbyterian Scot that he always essentially remained. On modern Jews he can be caught expressing crude and coarsely stereotyped ideas. But I am afraid other great Victorian writers can also (George Eliot is a shining exception) and Carlyle is far from alone in the illiberal expressions he sometimes used about people of other races or creeds. It must be remembered also that the antisemitism of Carlyle belongs to the radical and socialist tradition; it is the sneering of the underdog against rich and powerful Jews.

If you can believe that Carlyle would have sneered at poor Jews, or poor people generally, his life and work make no sense, for it is clear that much of the driving force in him came from his passionate sympathy with the poor, and his protest against what the Industrial Revolution had done to them, and what the Whigs must be falling to do. Himself the child of poor parents, he had known the poverty of a hack writer in heartless London.

It might be noted here that while other great Victorians expressed concern about the Irish famine, Carlyle actually went to Ireland, twice, and saw it at first hand, and what he said makes searing reading.

Governor Eyre? I think Eyre was

or passages. There is no difficulty in presenting Carlyle as a disagreeable man and impossible husband, and his gloom and "fire-eyed Despair" do not become any more attractive when they are explained, as to some extent they must be, by "that thrice-cursed stomach of mine." Nor is it hard to show that he had a high opinion of himself and often made scathing remarks about other writers.

But it would be just as easy to show that Carlyle was a pleasant and agreeable person, with a lively sense of humour and fun. Tennyson, Dickens, John Forster, Thackeray, Browning, FitzGerald, all loved him, while fully aware of his faults. As for Jane Welsh Carlyle, though the marriage was obviously a very difficult one, there is no doubt that a deep affection between them continued to the end, nor were they so ill-matched as is often said. We can see from the letters that they shared a certain sardonic worldliness which is attractive to modern taste, and Mrs Carlyle believed in Thomas's genius as fully as he did (and they were both right: he was a genius).

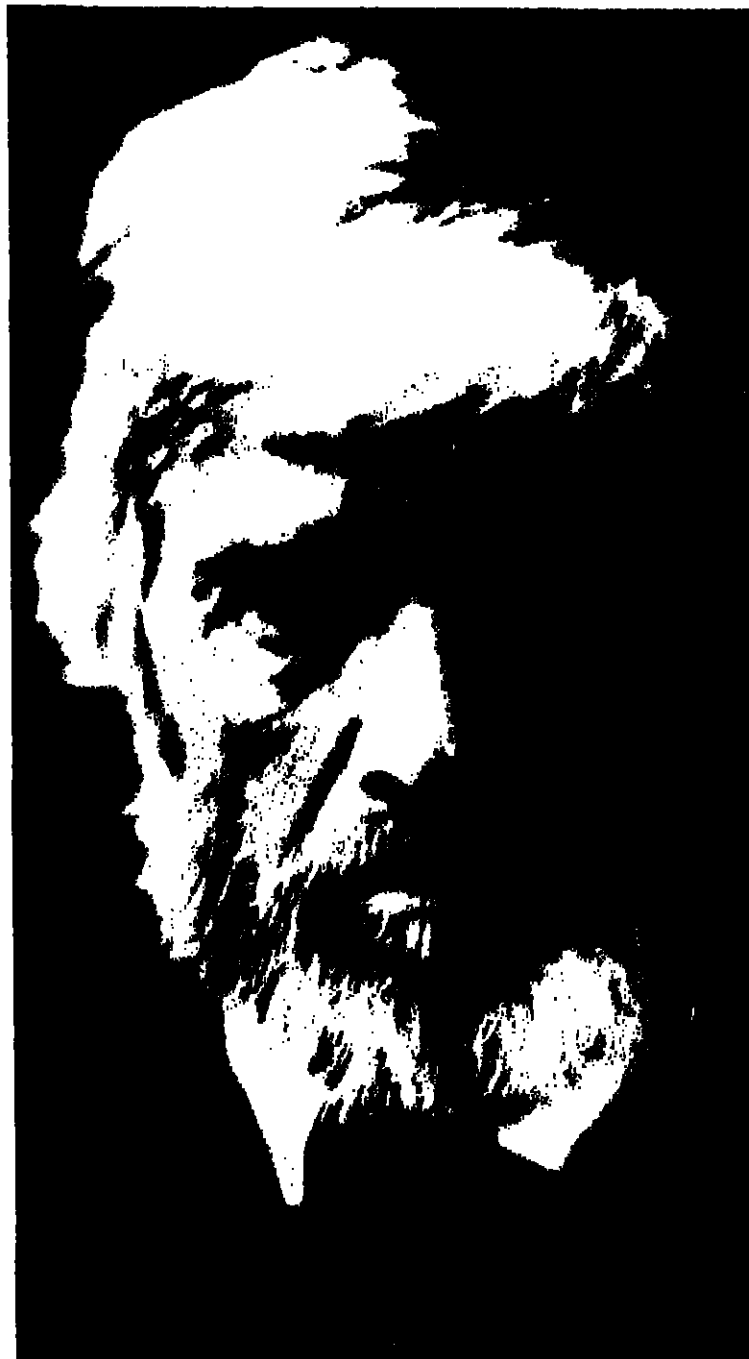
Similarly, Carlyle's views need careful disentangling. He is often said to have made a Hitlerian cult of Teutonic "heroes", but is this true? If so *Heroes and Hero-Worship* does not support it. Of the heroes in that book, Odin, I suppose, if he existed, must be counted as Teutonic, and Carlyle certainly must be, but the others are "Mahomet", Dante, Shakespeare, John Knox, Samuel Johnson, Rousseau, Burns, Cromwell and Napoleon - no Germans there. And of course if you actually read the book you will find that it has nothing to do with Nazism, or Nietzsche, or anything of that kind. It consists of what we would now call cultural anthropology.

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Photograph of Carlyle taken by Julia Margaret Cameron in 1867.

wrong to do what he did, and Carlyle was wrong to support him, but it is unjust to make Carlyle the scapegoat for a sizeable herd. Victorian intellectual opinion was split over Governor Eyre. Tennyson, Dickens and Ruskin, among others, supported him, and they were not inhuman men. And it should be remembered that Mill and Huxley, who led the opposition to him, were both writers who had been deeply influenced by Carlyle.

I must not convey the impression that Kaplan shows the combativeness that Carlyle invites, for and against. He is not writing a polemic, but telling a story. It is a good story, and he tells it well. One decision he makes is to leave Carlyle's works, or offer a critical evaluation of them. This was clearly a

difficult decision for him, since though the story is told very objectively Kaplan is sympathetic towards Carlyle and wants the reader to feel his sympathy. But it is not easy to do this without the lively sense of Carlyle's work which Kaplan has, but most of his readers probably lack. Nor does Kaplan round off the story with an account of Carlyle's posthumous reputation and its fluctuations, nor even a summary of what he himself thinks Carlyle's achievement comes to. The nearest he gets to this is in the very full and fair discussion of what Carlyle was getting at in *Letter-Diry Pamphlets* (1850), now a much maligned work, which Kaplan sees as a turning-point in the development of Carlyle's thought. I could wish that he had said more about some of the earlier and more

wrong to do what he did, and Carlyle was wrong to support him, but it is unjust to make Carlyle the scapegoat for a sizeable herd. Victorian intellectual opinion was split over Governor Eyre. Tennyson, Dickens and Ruskin, among others, supported him, and they were not inhuman men. And it should be remembered that Mill and Huxley, who led the opposition to him, were both writers who had been deeply influenced by Carlyle.

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immediately attractive books, such as *The French Revolution* (1837).

One thing I felt in the narrative was the comparatively skimpy treatment of Carlyle's relations with Americans - surprising in such a distinguished work of American scholarship. For years Carlyle's house in Chelsea was an American port of call, and I would have liked to hear about Longfellow, and Henry James (senior), and transcendental Margaret Fuller who "accepted the universe". Above all, the friendship with Emerson did not emerge vividly. This is a pity, because it would have been a splendid opportunity to display Carlyle's skill at the pen portrait. Here he is on Daniel Webster, the once famous orator:

As a Logic-fencer, Advocate, or Parliamentary Hercules, one would incline to hack him at first sight against all the extant world. The tanned complexion, thus unobscured by the dull black eyes under their precipice of brown like dull anthracite furnaces, needing only to be blown, the musty-mouth, accurately closed: I have not traced as much of *silent Berserker-rage*, that I remember of, in any other man. (June 24 1839).

Emerson was duly delighted with "those thirsty eyes, those portrait-eating, portrait-painting eyes of thine, those fatal perceptions" (August 8 1839). No wonder Carlyle was called the Rembrandt of English prose. He can be a Hieronymus Bosch too: I think of that "great Hat seven-feet high, which now perambulates London streets", advertising a batter in the Strand, with which Carlyle has such wild surrealist fun in *Past and Present*. And, cruel as it is, who can refrain from laughing at Carlyle's picture of the Old Coleridge?

"A Scotch tea is too cold, Mr Coleridge!" mourned the good Mrs Gillman once. "It's better than I deserve!" snuffed he, in a low hoarse murmur, partly courteous, chiefly pious. "It's better than I deserve!"

I have heard it said the Carlyle added only one phrase to the language, "the sea-green Incurruptible" (a description of Robespierre). But that is enough to remind us that he was a wonderful writer. Here, and only here, I feel that Kaplan does not quite convey the quality of his subject. Otherwise, the book is masterly. It will be the standard life for our time. Kaplan does not whitewash Carlyle. He aims at fairness, balance, understanding - all quite un-Carlylean. As a result, Carlyle's passion stands out all the better. The biographer of Carlyle has an opposite problem to the biographer of Shakespeare. He has too many facts. Kaplan has organized them with tact and skill, so that the story makes sense. Here is Carlyle against the background of family and friends and the wider Victorian world now becoming remote, so that Victorian books need notes. Here we have more than notes. We have a whole nineteenth-century world in which Carlyle is a central and unignorable presence.

W. W. Robson is professor of English at the University of Edinburgh.

Plain tales

Kipling: Interviews and Recollections, two volumes
edited by Harold Orel
Macmillan, £17.50 (each volume)
ISBN 0 333 27806 2 and 27807 0

Rudyard Kipling was not the most approachable of writers. The thick, dark and surly little man (as Edmund Wilson described him) had a reputation for showing friends and reporters the door. For an author whose political views became the talk of five continents his instincts were remarkably reticent. The houses he occupied in Vermont, in South Africa, and at Burwash in Sussex were deliberately secluded retreats. His life and career,

as Harold Orel admits, remain puzzling, and these two volumes of *Interviews and Recollections* are for the most part both superficial and discreet.

For example, Lord Castlereagh's account of the Kipling marriage - he alleged that "Kipling handed himself over bodily, financially and spiritually to his spouse" - is not even alluded to. The selections we are given from Kipling's schoolfellows (the originals of *Stalky & Co.*), barely touch on the all-important matter of racism and brutality of the United Services College. Since Orel includes no less than four different versions of such a comparatively trivial matter as the rejection of an article or story of Kipling's by the *San Francisco Examiner*.

Kipling's fame began early. The "Kipling-boom" took off in 1890, ten years and more before his contemporaries such as Bennett, Galsworthy, Wells, and Yeats began to steal the limelight. In 1907, at the age of

41, he became the first British writer to win the Nobel Prize. Twenty years later the *Kipling Journal* was founded, and its files have provided Harold Orel with the greater part of his collection of hagiography and reminiscences. In them, Kipling is observed as a great man, a genius, a family friend - but only once (in a brief memoir by Mark Twain) by anyone who could be considered his intellectual equal. We see his solitude intensified by the public quarrel with his brother-in-law which led him to scuttle his intention of settling in the United States - and Orel's selection contrives to suggest, rather contrary to the usual opinion, that the "best people" in Vermont took Kipling's side in the quarrel. Another *Kipling Journal* contributor marvels that Kipling and Conrad never met, since Balaam's in Sussex was "literally within hailing distance" of Pent Farm in Kent. Few of the memoirists have much light to

throw on Kipling's creative obsessions. It was not, of course, that he did not talk to people. Those journalists who managed to meet him found that it was to him who conducted the interviews. As one recalled, he "found out more about me in ten minutes than my parents ever knew. So he interviews everybody, getting each man's facts like a fishwife cleaning a herring". Was it in that spirit, one wonders, that he talked to the private soldiers, half-caste workers, ragamuffins, traders and holy men who throng his Indian books and stories? We would like to know, and there must have been many who remembered "Kuppeleen Shih", but tantalizingly enough it seems that nobody bothered to find out. Not a single native Indian voice is heard in these pages, nor any soldier below the rank of General.

Kipling - whose first language up to the age of six was Hindustani - had left India before his "boom" began, and during the last forty years of his life he

never returned. Yet his taste for the bazaars, opium-dens, barracks and railway-yards of the Punjab is in many ways the key to his achievement. To his fellow-members of the Anglo-Indian community he showed an inexpressible, and possibly subversive, taste for low company; once turned to account in poems and stories, however, if won their instant recognition and gratitude. Though his later fascination with South Africa and Cecil Rhodes made him into an imperialist of the crudest type, Kipling's India embodies the subtlest and most seductive of imperialist myths. It is the myth of a master-race which knows and loves its subject-peoples better than they are able to know and love themselves.

Patrick Parrinder

Patrick Parrinder is reader in English at Reading University.

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BOOKS

How a war began

Before the English Civil War
by Howard Tomlinson
Macmillan, £15.00 and £5.95
ISBN 0 333 30898 0 and 30899 9

No one could complain that volumes of essays on the seventeenth century are in short supply. Even before the appearance of this new collection the same publisher already boasted no fewer than six such titles on its backlist, most of them in the same "Problems in Focus" series.

This new volume does not join that well-known group, and is certainly less problem-orientated and in a sense less focused than the others. The seven essays which comprise the book in fact have only two principal characteristics in common. The first is that they all, from different angles, reveal the complexities of early Stuart politics and government and "the legal and institutional rigidities of early seventeenth-century society". The second is their shared conviction that "the early Stuarts were not doomed to failure and that the Civil War was... a most surprising and unintended catastrophe".

The editor's introduction and opening historiographical chapter provide a kind of framework and prepare us for the assortment of neo-Whig and revisionist contributions that follow. It will not take the reader long to discover that the book's Whiggish-looking title is emphatically belied by its contents. Nevertheless in a real sense the shadow of the great Victorian historian S. R. Gardiner falls across all the essays. Howard Tomlinson, therefore, does well to salute his achievement and to remind us that on some aspects of the period—notably foreign policy—he still remains unchallenged. "No historian of early seventeenth-century England has yet evaled his mastery of diplomatic sources".

Gardiner, however, was no great admirer of King James I. In the Hampton Court Conference, he declared, "the essential fitness of the man was at once revealed". Patrick Collinson's essay on the Jacobean religious settlement takes issue with this verdict and presents a convincing alternative view of the 1604 proceedings which shows the wily monarch losing not one opportunity to assert his lofty theory of kingship. But the consequences of the Hampton Court Conference did not lead inexorably to the Civil War which broke out nearly forty years later. The Jacobean Church, Collinson makes clear, was not a battleground between Anglicans and Puritans.

Collinson's views on Archbishop Laud, whose advancement he sees as "the greatest calamity of all", presumably identify him as a neo-Whig. Revisionism of a more extreme kind characterizes the lively essays by Kevin Sharpe, Conrad Russell, and Anthony Fletcher. In the first of them, on the personal rule of Charles I, Sharpe presents a vigorous case for abandoning the notion of an eleven-year tyranny which inevitably backfired and failed. The king's record at this time was far more successful than contemporary critics and later Whig historians were prepared to allow (for example in

the collection of Ship Money). The ultimate failure of personal government, Sharpe argues, was neither intrinsic nor inevitable but was the result of the Scottish war.

Revisionist caution with Professor Russell's reiterated reminders about "The Nature of a Parliament in early Stuart England". This essay provides a compact and convincing demonstration that "there is no such subject as 'parliament in the early seventeenth century': there are irregularly recurring events called 'Parliaments'". In a chapter that is certain to be widely used by students Russell rehearses for us the reasons for calling parliaments, their formal business, their function as a point of contact, and their symbolic significance.

Fletcher's chapter, on the other hand, takes us from the centre to the provinces and re-examines the vexed question of overlapping loyalties, subtly measuring as he proceeds the varying proportions of national and local consciousness discernable in the different county communities. The

Autocracy of public silence

Russia in the Age of Modernisation and Revolution 1881-1917
by Hans Rogger
Longman, £14.95 and £5.95
ISBN 0 582 48911 3 and 48912 1

The German Chancellor Bethman Hollweg remarked on the eve of the First World War that "the future lies with Russia, she grows and grows and lies on us like a nightmare". Three years later, in March 1917, Lenin replied that "Russia is still a peasant country, one of the most backward in Europe". No other country was less well adapted to the rapid industrialization and modernization which was imposed on much of Europe during this period. An inefficient autocracy based on a backward peasant economy could not change in a hurry and historians still argue whether it was the slowness or speed of Russia's transition which brought about revolution. The latest volume in the Longman History of Russia offers another account of this process. It starts with a vivid portrayal of autocracy running out of steam and shows how Russia's clumsy reaction to the pressures for liberal change was a product of traditions of too little rather than too much government. Russia was an autocracy of public silence, as Struve put it, based upon policemen, incompetent bureaucrats and a Tsar away yachting. It reluctantly entered the twentieth century with eighteenth-century concepts of government and no idea how to save nobles from extinction, let alone make Russia into a modern industrial state.

Professor Rogger continues with a good, though brief, discussion of the agrarian question in this period and a fair synopsis of the achievements and problems of hasty industrialization. Both these themes are then linked with the political debates of the Russian Left and an account is given of their role in the 1905 revolutions. Sensibly enough, most of Rogger's narrative takes place up to this point. "For it was then", we are told, "that the patterns of distrust and contention that divided

remaining essays by Simon Adams and David Thomas concern the religious dilemmas of early Stuart foreign policy and the financial and administrative developments of the period.

It would be unreasonable to expect a collection of essays to provide a comprehensive treatment of this period. Here the principal preoccupation is with politics and there is little on social, economic and legal aspects, and nothing on culture. But taken together these essays constitute a well-written, useful, up-to-date, and at times provocative volume. There are interpretations and verdicts in individual chapters which are clearly not always shared by other contributors. That at least should not surprise us. In this endlessly contested field complete unanimity is the last thing we would expect to find.

R. C. Richardson

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Happy families

Forgotten Children: parent-child relations from 1500 to 1900
by Linda A. Pollock
Cambridge University Press, £25.00 and £9.50
ISBN 0 521 25009 9 and 27133 9

A quarter of a century ago social history was ill-defined, except in a negative way as "history with the politics left out" (an unkindler version was "economic history with the hard bits left out"). In departments of economic and social history the latter was the junior partner, reflecting Sir John Clapham's view that "by far the greater part of social history... is simply economic history". Today, by contrast, the junior partner has become dominant. The subject has its

own society, journals and courses, it has found a methodology—or rather a multitude of methodologies—in statistics and the social sciences, and it is staking out its territories. These include historical demography, urban history, the study of social protest, and the history of social groups.

Linda Pollock's *Forgotten Children* belongs to this last category and it displays both the strengths and weaknesses of modern social history. Its greatest strength is that it touches common experience in a way that other branches of history rarely do. We are all children and many of us are parents; a history of parent-child relations evokes a sympathetic response. Dr Pollock brings to the subject a command of concepts drawn from psychology, sociology, and social anthropology. She also has an encyclopaedic knowledge of 433 British and American diaries and autobiographies written between 1500 and 1900 which she uses to demolish earlier generalizations that were, at best, premature and, at worst, downright silly.

The best known of these is Aries's argument that there was no concept of childhood in Europe before the seventeenth century. Parent-child relationships were formal and distant, and children were brutally treated by their parents. Our modern child-centred world is very different, the product of major changes in attitudes and behaviour, attributed variously to the rise of capitalism, a spirit of benevolence, and changes in the basic structure of the family. Dr Pollock has little difficulty in showing that such views are contrary both to nature and the evidence. Children were loved and cared for in the past, and there was a concept of childhood. There are, of course, differences today in relations between children and parents from those of three centuries ago, notably in the matter of child labour; but changes occurred slowly over time. There have been no sudden, dramatic shifts.

The weaknesses of the book are in part the weaknesses of recent social history. There is a tendency to trivialize (*Forgotten Children* has echoes of *The World We Have Lost*), and to dwell upon the trivial and the unimportant and the punitive, asserting the paramount importance of maintaining law and order, pressing for stiffer penalties and short sharp shocks; ranged against them, the permissive and the sentimental, depicting young offenders as the victims of adverse environments and pinning their faith in the ministrations of social workers rather than the parade-ground commands of drill instructors. But that simple and familiar pattern has more recently been cut across by the work of the Justice for Children group. Their sharp critique of the employment of welfare principles in juvenile justice (or "welfarism", as some of the writers under review regrettably prefer to say) stems from a political stance that is generally liberal or radical and has been heavily influenced by the assault on the American juvenile courts.

In the middle sixties, the US juvenile courts were convincingly denounced as damaging and hypocritical. Since their inauguration at the end of the last century, the formal ideology of these courts had emphasized their welfare rather than their judicial functions. Because they claimed not to be concerned with punishment, the customary legal safeguards of the adult courts were deemed unnecessary; yet the correctional institutions to which youngsters were committed, often on an indeterminate basis, might well have all the features of a punitive environment. The Supreme Court was the principal instrument of reform; in the light of some crucial decisions, most American states have reshaped their penal codes so as to increase the legal rights of juveniles (the right to defence counsel, the requirement that

BOOKS

Welfare is bad for you

Providing Criminal Justice for Children
edited by Alison Morris and Henri Giller
Edward Arnold, £7.95
ISBN 0 7131 6397 6
Providing Civil Justice for Children
edited by Hugh Geach and Elizabeth Swed
Edward Arnold, £9.95
ISBN 0 7131 6400 X
The Rights and Wrongs of Children
by M. D. A. Freeman
Frances Pinter, £17.80 and £5.95
ISBN 0 903804 20 4 and 86187 226 6

During the past few years, the terms of public debate over juvenile justice have changed radically, and it is the contributors to these volumes who must receive most of the credit for having brought about this shift as far as the United Kingdom is concerned.

Throughout the 1960s and most of the 1970s, few observers would have had any difficulty in identifying the lines of battle and the nature of the opposing forces; on the one hand (generally, the right hand) the tough-minded and the punitive, asserting the paramount importance of maintaining law and order, pressing for stiffer penalties and short sharp shocks; ranged against them, the permissive and the sentimental, depicting young offenders as the victims of adverse environments and pinning their faith in the ministrations of social workers rather than the parade-ground commands of drill instructors. But that simple and familiar pattern has more recently been cut across by the work of the Justice for Children group. Their sharp critique of the employment of welfare principles in juvenile justice (or "welfarism", as some of the writers under review regrettably prefer to say) stems from a political stance that is generally liberal or radical and has been heavily influenced by the assault on the American juvenile courts.

The tendency to neglect negative instances is well illustrated in both volumes. It might have been worth considering how it is that the Scottish juvenile justice system, with its explicit commitment to a welfare ethic, its use of lay tribunals and its inexorably casual attitude to the priorities of procedure, should nevertheless have moved so far ahead of English or American courts in giving practical expression to the principle of the "least restrictive alternative". On the civil side, Hugh Geach's flamboyant attack on what he chooses to call "the child abuse industry" is notable less for the few valid points it undoubtedly makes than for its complete disregard of the meticulous work of Dingwall and Eekelaar, which effectively refutes assertions of intrusiveness and over-reaching on the part of social workers and health visitors.

Michael Freeman, who contributes to the Geach and Swed volume a theoretical framework for the definition of children's rights and a constructive critical review of the problems of

proof should be "beyond reasonable doubt" and to minimize judicial discretion.

In Britain, the printing presses have so far played a very much larger role than the courts in the attack on welfare principles. The assumptions, the motives and the modus operandi of those who make both the English and Scottish juvenile justice systems work have been exposed to a forceful and invigorating criticism which embraces not only the treatment of offences but the management of such varied problems as truancy and child abuse and the assumption of parental rights by local authorities.

The books edited by Morris and Giller and Geach and Swed develop the ideas promulgated in their earlier *Justice for Children* and show a much keener awareness of the narrowness of the path they tread and of the deep and dangerous divides on either side. It is embarrassing, having derided the pretensions of the welfare professions, to find oneself cheek by jowl with some coarse right-wing exponent of the virtues of detention centres. It is depressing, having lauded the decisions of the Supreme Court in such cases as *Gault*, to review evidence suggesting that the large-scale movement of lawyers into the American juvenile courts has done little to bring about more favourable disposals for young offenders in English courts too. The recent increase in legal representation has achieved remarkably little for the young clients. These difficulties are openly acknowledged by the editors and contributors; Stewart Asquith's essay in particular is a closely-argued examination of the hazards of an over-emphasis on procedural justice.

But to maintain the distinctiveness of this position it is necessary both to postulate differences which cannot be substantiated and to neglect knowledge which runs counter to their basic assumptions. Thus, Henri Giller's valuable chapter on residential services sustains the customary dismissal of "treatment" as both ineffectual and morally indefensible, but commends the use of (optional) "helping strategies"; but an examination of what probation officers and social workers actually believe and do would suggest that very few of them were trapped in the "medical model" of delinquency which these writings constantly impose upon them.

The tendency to neglect negative instances is well illustrated in both volumes. It might have been worth considering how it is that the Scottish juvenile justice system, with its explicit commitment to a welfare ethic, its use of lay tribunals and its inexorably casual attitude to the priorities of procedure, should nevertheless have moved so far ahead of English or American courts in giving practical expression to the principle of the "least restrictive alternative". On the civil side, Hugh Geach's flamboyant attack on what he chooses to call "the child abuse industry" is notable less for the few valid points it undoubtedly makes than for its complete disregard of the meticulous work of Dingwall and Eekelaar, which effectively refutes assertions of intrusiveness and over-reaching on the part of social workers and health visitors.

Michael Freeman, who contributes to the Geach and Swed volume a theoretical framework for the definition of children's rights and a constructive critical review of the problems of

children in local authority care, has also produced a wide-ranging and coherent discussion of the issues involved in situations where one or other of the organs of the state may intervene in children's lives. From a standpoint of liberal paternalism, Freeman develops a definitional analysis of rights in essentially Rawlsian terms, and applies this not only to the familiar areas of delinquency and child abuse, but also to children in care, to those caught up in the consequences of divorce, and to those whose interests or wishes may be at variance with those of their parents. There is a constant recognition of the need for reform, but this remains essentially a scholarly rather than a polemical work.

The Rights and the Wrongs of Children draws upon a great deal of sociological and psychological writing and is open to some criticism for a occasionally indiscriminating acceptance of material of dubious quality, but the bringing together of empirical research findings with legal and philosophical analysis is for the most part very fruitful. The author has reservations and misgivings about the development of "the therapeutic state", but he is able to acknowledge that doctors and social workers can act with good faith and sometimes even with good judgment. This degree of tolerance is not invariably to be found among rights-oriented writers, any more than Freeman's readiness to admit that some of the issues are exceedingly complex and require further analysis, and cannot immediately be reduced to four non-negotiable rules.

F. M. Martin

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The devil you know

Televising "Terrorism": political violence in popular culture
by Philip Schlesinger, Graham Murdoch and Philip Elliott
Comedia, £12.00 and £4.95
ISBN 0 906890 38 1 and 39 X

The Christmas bombing at Harrods. The nation is informed through angry headlines and sobering news broadcasts. "Murder", "A crime against humanity", "IRA Provokes Shatter Christmas Joy". The government will not be deterred in its resolve. "We will not give in to terrorism". The police investigation is at first reported in some detail as are stories of individual tragedies. Soon it is forgotten and ignored, except for occasional items like the appearance of a photo-fit picture or an arrest of a suspect under the Prevention of Terrorism Act. Perhaps some time later a story of a terrorist attack on a city store at the height of the January sales, and the resolution of the crime, will appear in an episode of *The Professionals* or as the subject for *A Play for Today*.

Each mention of the event, in newspapers and on television, through

factual reporting and in fictional representation, presents an image of terrorism and defines a way of seeing and understanding it. How that work is done and the political consequences of it being done—coherently or incoherently, consciously or unconsciously—is the major preoccupation of this book. The authors (one of whom, Philip Elliott, sadly died soon after its completion) have as their primary concern the examination of the way in which representations of terrorism are closely bound up with the exercise of what they call "definitional power". This power lies in the capacity of the liberal-democratic state to create an environment of understanding in which acts that are to be called terrorist can be properly responded to by the majority of the population in a way which accords with dominant political interests. This definitional power is not easily won, neither is it ever total. The authors discuss the significance of other views of terrorism which in our society compete with the official perspective, and they suggest that some television texts are more open to alternative readings than others, are less tight in their definition of an attitude to terrorism. Predictably it is in some works of fiction, or in late night, less watched news programmes, that the ideological hold is more relaxed.

Emerging from this political mine-

field is a view which might mark something of a watershed in the academic criticism of television, in which the BBC and the independent companies have up to now both been tarred with the brushes of bias and general (though not specific) subservience to the will of their political masters. While the arguments remain broadly the same, the emphasis is reversed. Whereas one might have expected (as one actually found in Schlesinger's earlier book, on television news) fundamentalist criticism of broadcast television for its failure to be open to alternative views and to analyse the context of news events, *Televising "Terrorism"* presents a case for the preservation and defence of public broadcasting as the only, and last, hope for any independence of thought and practice in the face of creeping commercialism and the growing power of the state. Better the devil you know.

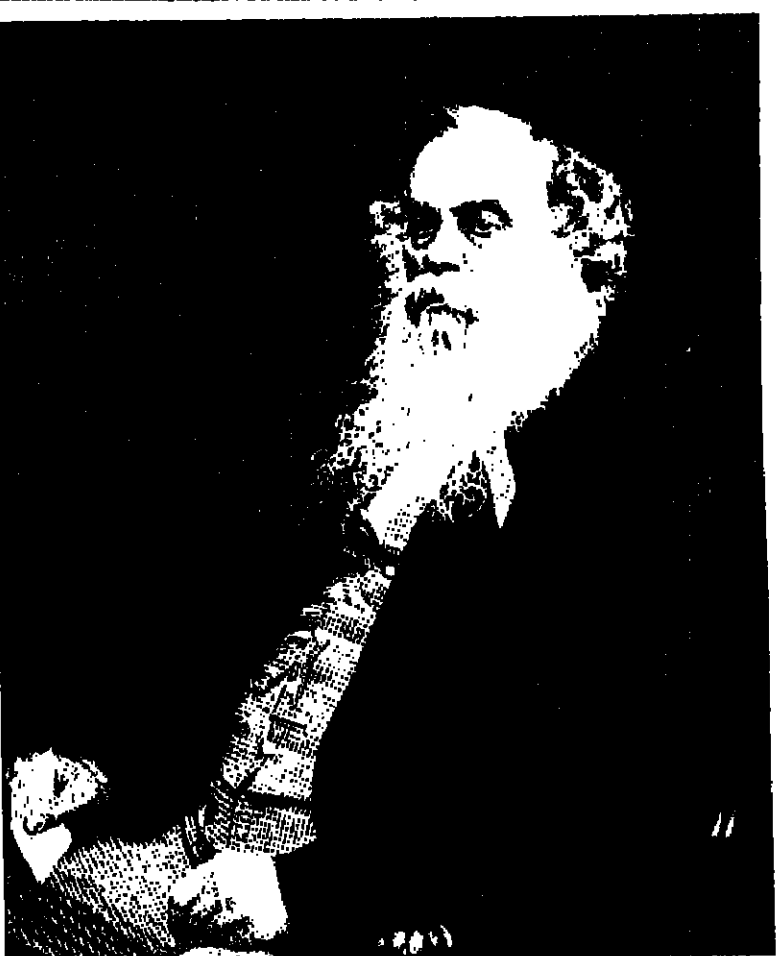
Otherwise the book presents many of the virtues and the inevitable weaknesses of media analysis as it is currently being practised. Just to scratch the surface of television's content is to release a flow of fascinating material: of the details of textual framing through style and strategies of questioning, story-telling and the placing of speakers in discussion, as well as the more obvious exclusions—for example the non-appearance on our television screens (with only a handful of controversial exceptions) of any member of the Provisional IRA.

What happens when you scratch the surface of their own text? The authors make much of the mutual borrowing of fact and fiction in the presentation of so-called terrorist activity; that fiction takes its plots from fact and that fact takes its mode of presentation and its drama from fiction. However, this profound, and I believe powerfully significant interpretation of the two in television culture is insufficiently dealt with, at the level of rhetoric or in terms of narrative structure. Missing too, through lack of space, as the authors admit, is any detailed analysis of a television text as a whole. In the absence and in the consequent fragmentation of evidence, there will inevitably be questions about the validity of the various interpretations offered. However this is a useful book on an important and irresolvable conflict in British political culture. It should be read in high places. I wonder if it will be.

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Sir Titus Salt, the nineteenth-century textile manufacturer who built a model town, Saltaire, for his Bradford employees. This portrait of him in old age is taken from Jack Reynolds's book *The Great Paternalist: Titus Salt and the growth of nineteenth-century Bradford* (Temple Smith, £16.00).

Topped and tailed

The Evolution of the British Welfare State: a history of social policy since the industrial revolution, second edition
by Derek Fraser
Macmillan, £4.95
ISBN 0 333 35999 2

More than ten years have passed since this immensely successful study first appeared. A one-time Open University text, it has become the standard text on the course of social policy and social ideas since the industrial revolution. But success, alas, is a wasting asset. The time has long since passed

when authors of established texts could rest on their laurels secure in the knowledge that, apart from minor corrections and revised bibliographies, no further demands were to be expected. The quickened pace of research and publication has meant that the maintenance of a popular text increasingly resembles the painting of the Forth Bridge.

So great has been the output of scholarly articles and monographs, and so varied the theoretical concepts employed, that we are in perpetual pursuit of our bearings. The once-dominant Whig interpretation of welfare history is now of no more than historiographical interest. The *de haut et bas* perspective from which so much of it was written also seems inadequate. The primacy of private benevolence, of present bureaucrats and pragmatic politicians can no longer be taken for granted; the attitudes and activities of the recipients

of welfare, it is now recognized, are scarcely less important and sometimes more so. The progressive character of social welfare legislation is equally suspect. Historians are now rather more aware of the ways in which social policy can act as a form of social control to discipline and regulate the poor, and assist the reproduction of the labour power necessary to sustain industrial capitalism. Old certainties, then, have collapsed, although no new consensus has emerged. The need for a fresh synthesis remains pressing.

Derek Fraser's revised text has much to commend it. Although the basic structure and organization remain unchanged, each chapter has been updated to take account of recent research and five additional items have been attached to the useful documentary appendix. The bibliography, too, has been considerably enlarged. To the first edition Professor Fraser has added a new foreword

which outlines the various new approaches that have been applied to the history of social policy together with a postscript in which he reviews present and future prospects for welfare in Britain.

Valuable though it is, I think that this could have been a much better book if, instead of topping and tailing the text in order to engage directly with the alternatives to the *ad hoc* incrementalism which he himself favours.

Students need to be shown how to evaluate different interpretations, rather than being told that such differences exist.

David Engländer

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Orlando Figes

Orlando Figes is a research student at Trinity College, Cambridge.

government and society were laid down". Thus Rogger sees more grounds for hope in the years after 1905. He favours the pessimistic view of the Stolypin reforms and shows healthy scepticism towards Duma politics. Despite textbook objectivity, one senses a sympathy for the doubts held by Tolstoy over institutional renovation and it is difficult to disagree. Peasants who marched out in procession led by the village priest to greet their Duma delegates were likely to settle down on the spot to talk of revolution; Stolypin's agents were usually lynched.

The book ends with a run-through of the familiar material on war and revolution and also contains two chapters on Russia in Asia and her role as a multinational state—an important corrective to the Eurocentric view of many older textbooks on Russia in this period.

Professor Rogger has produced the best textbook available on this period in English. It gives constantly fair judgments, has a good balance between anecdotal and statistical detail and opens up most of the important areas of discussion. There is a useful section of maps and an excellent

bibliography. However, whether its prosaic written style and lack of resolution on some of the more crucial issues will make this book as popular outside schools and colleges as older books on this period is doubtful. The book is a well-formulated tabulation of uncontroversial material, not an essay. There is nothing on Russian culture and little on the social role of the church. The question of class differentiation in the peasantry, which largely decides whether the revolution was socialist or not, and the effect of 1905 on gentry class consciousness are not touched upon. As usual, the urban bias of this book is a marked one and bureaucrats gain equal billing with the peasants (by whom they were outnumbered by seven to one). The reader is left little better off for his understanding of Lenin's remark that Russia was a peasant society and he is left even less aware of the enormous regional variations in peasant economy. It will be a long time before textbooks write this history of Russia.

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Labour theories

The Nature of Work: an introduction to debates on the labour process
by Paul Thompson
Macmillan, £15.00 and £5.95
ISBN 0 333 33026 9 and 33027 7

Debates on the labour process originated and have largely remained within Marxism. Labour theory attempts to locate work activity within the total productive system and thus within the society in general. It is a promising approach, offering a meeting point for sociology and Marxism. However, as this book illustrates, both by argument and example, the promise is not being fully realized.

Paul Thompson writes as a supporter of the Marxist tradition. His first task therefore is to show that industrial sociology was wandering ineffectually in the wilderness before being rescued

by labour process Marxists. The result is rather strange: the coverage is patchy and the first chapter gives a sense of seeing history being remade.

It may come as a surprise to discover everyone was persuaded by Kerr's "logic of industrialism" or even that there was so much consensus in sociology. That Braverman was claimed as the redeeming prophet is some indication of how far Marxists had ignored the details of actual work relationships. He may have had some interesting things to say, but it was his talent for sweeping oversimplification and translating familiar ideas into jargon which has ensured that Braverman is quoted with monotonous regularity. Such prophets are not easily dismissed and Thompson treats him with considerable kindness. While rejecting almost everything Braverman said, Thompson nevertheless concludes that he provided an important lead in the right direction.

This reflects the main strengths and weaknesses of the book. Being committed to a Marxist labour process approach, he is able to review disagreements and express criticisms

makes for a good account of the current debate. But one criticism is not followed through to a point which could put the whole approach in question.

Crucial issues here are deskilling and the resultant degradation of labour, which are seen as a necessary consequence of the continual pursuit of surplus value. However, while it is true that the knowledge and skills of workers are constantly being incorporated into management functions or the performance of machines and that many men and women are employed on jobs well below their capacities, it does not establish the deskilling thesis. If deskilling is an essential process of capitalism one may wonder where the skills come from in the first place. In fact the changes that undermine existing skills also generate new ones, and more recently some Marxist writers have admitted to being uncertain whether the net result is an increase or decrease in skill. While such an evaluation is problematic, it is clear that the deskilling transformation of the labour process, changing both the nature and distribution of skills, to look only at skill loss is

Paul Thompson writes as a supporter of the Marxist tradition. His first task therefore is to show that industrial sociology was wandering ineffectually in the wilderness before being rescued

BOOKS

Thinking about the bomb

Dangers of Deterrence: philosophers on nuclear strategy
edited by Nigel Blake and Kay Pole
Routledge & Kegan Paul, £5.95
ISBN 0 7100 9885 5

They keep philosophers around some American hospitals these days to clarify the ethical issues of medical practice. The thesis of the *Dangers of Deterrence* is that the Ministry of Defence needs some too. In an age of high unemployment, this proposal deserves sympathy. Although the blurb threatens us with a book-length banner on the theme of philosophers for peace, there is a certain plausibility to the view that the whole nuclear debate might suffer bedeviling from deep-rooted conceptual confusions. On the other hand, philosophers re-entering the cave are, as Plato pointed out, notoriously prone to get the shadows all mixed up, and they sometimes end up even more confused than practical people.

It is, alas, the two distinguished philosophers in this collection who demonstrate Plato's law. W. B. Gallie tosses up some interesting beginnings of argument, only to degenerate into CND ranting such as "The proposed new Trident force will not in any way lessen Britain's dependence on America, and exposes as sheer hypocrisy British claims to support multilateral nuclear disarmament". It takes no great logical sophistication to write sentences like this.

Mary Midgely transposes the concept of military deterrence (quite inappropriately so far as I can see) into the theory of punishment, and proceeds to construe it as one side of a coin whose other side is provocation. She is, no doubt, betrayed by language, but the obvious point is that provocation in international relations is not the uncontrollable passion it is thought to be among provoked individuals, but a careful calculation based on power. It is only very powerful states which can afford to flaunt their sense of being provoked; the little ones shut up about it. Mrs Midgely's early conceptual scufflings degenerate before long into a tendentious account of twentieth-century history in which she, reinterpreting appeasement and construes the Soviet Union as a terrified neurotic worried about western intentions. It is all rather as if Pollyanna took up Al Capone.

The basic difficulty is that Mrs Midgely assumes a deliberative rationality in those she addresses, and an organic rationality in the Soviets, whom she is explaining. The latter are the product of their historical traumas, while we ought to adopt a policy of pure reason. The obvious reason for this division of the world is rhetorical: there are a lot of discussions about peace in the West, and an insuperable blank wall in the despotism to the East. Mrs Midgely laudably wishes to avoid

partisanship, but her usual solution is to recognize nothing except abstract universals qualifying both blocs. Indeed, in an excess of ghastly philosophical good taste she has an undercurrent of British self-denigration running through her essay: "Nations used to an imperial position," she tells us in a line ripe for a weekend paper competition "are particularly prone to unthinking, rude and provocative behaviour". Yet there are some important problems of arms control which cannot be sensibly discussed without recognizing that the closed character of Soviet rule presents special difficulties.

The fact that the remaining essays avoid such amateurism is evidence that the uninitiated philosopher has little to contribute to the nuclear debate, for not much in these essays is particularly philosophical. Nicholas Measor demonstrates that games theory might, if one tinkers with the assumptions enough, as readily generate a unilateralist as a deterrent strategy. Kenneth Booth argues for a hard unilateralism in which Britain goes over to conventional forces and intensifies its technological investment in developing a conventional defence. Jeff McMahan employs some dodgy bits of stipulation to show that when politicians talk about "nuclear blackmail" they have not distinguished very different types of situation. And in the most tightly organized essay in the collection, Barrie Paskins argues that the deterrent model of western defence has worked

in Europe in recent decades largely because of helpful political circumstances, and that this very success may be a factor in nuclear proliferation to the Third World, where the political problems are widely intractable. Paskins, significantly, lectures in war studies at King's College London. It is precisely his grip on the nuclear debate which makes his essay impressive. This professionalism shows in other ways. The philosophers in the collection are prone to invoke the language of psychopathology when faced with any thought as inchoate or two beyond the comprehension of the upper slopes of Hampstead. Words like "mad" and "crazy" recur, and Mrs Midgely talks of "the mindless, all-purpose Empire-day patriotism which prevailed in my childhood, and which has lately been revived under the name of the Falklands Spirit." Paskins, by contrast, commends one of his own arguments on the ground that "it does not require us to assume that decision-makers in Washington and Moscow are crazy". Altogether, then, these more specialized essays constitute a serious case for unilateralism, though in all cases there is a vertiginous leap, in the concluding pages, from the implications of a theoretical model to a policy for our times.

Kenneth Minogue

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Britain's decline and fall

Strategy and Diplomacy 1870-1945: eight studies
by Paul Kennedy
Allen & Unwin, £15.00
ISBN 0 04 902007 2

During the last decade Paul Kennedy has emerged as one of the most talented and imaginative of our younger historians. Moreover, he has achieved this reputation without adopting the "safe" course of writing more and more about less and less. Instead, he has courageously taken as his canvas nothing less than Great Britain's entire experience in world affairs from the days of Lord Palmerston to those of Margaret Thatcher.

Kennedy's three previous books, all of outstanding merit, illustrate the breadth of his interests: *The Rise and Fall of British Naval Mastery* (1976); *The Rise of Anglo-German Antagonism 1860-1914* (1980); and *The Realities behind Diplomacy: Background Influences on British External Policy 1865-1980* (1981). And now he has very properly seen fit to publish a collection of occasional pieces, some of which are appearing for the first time. Of such collections it usually has to be said, adopting Churchill's words, that "this pudding has no theme". In this case, however, at least 75 per cent of the text has a bearing on Kennedy's principal obsession, namely his country's decline from the pinnacle of mid-Victorian global pre-eminence to its present parlous condition.

Kennedy, unusually for a British-trained academic, is no narrow specialist. He is as widely read in colonial as in diplomatic history, in economics as in strategy. This evidently aroused doubts in some ossified quarters. For he includes in this volume a brilliant and wide-ranging essay entitled "Strategy versus Finance in Twentieth Century Britain", but has to inform us that in an earlier incarnation it was "at first in some danger of falling into the 'gap' between military history journals and economic history journals" before it was "rescued" by the *International History Review*.

If Kennedy has admirable élan in attempting to cross the boundaries between academic disciplines, he is no less fearless in reaching unfashionable conclusions. In particular, he refuses to fall in with the prevailing mood which seeks simplistic explanations and easy scapegoats for the country's present plight. For example, he does not endorse the shrill denunciations of what he shows is the long and intelligent tradition of "appeasement" in British external policy, while he simultaneously remains aloof from the extreme revisionist school which thinks that the "appeasement" of Germany was too readily abandoned even in 1914 and 1939.

What, then, is Kennedy's distinctive position? Its quintessence is probably to be found in his Cust Foundation Lecture delivered at the University of Nottingham in 1982. A clue as to what is to follow is present in his seemingly perverse title: "The British Empire last so long?" For he is convinced that for at least a century Great Britain was a "Weary Titan" facing insoluble problems of overextension throughout the planet. One after another ultimately unappeasable rival states presented economic, financial and military challenges; while domestic constraints on consistent or decisive



Palestinians in military training in Beirut. Detail from one of Don McCullin's photographs in his book *Beirut: a city in crisis* (New English Library, £10.95).

British counter-measures came to resemble a seven-headed hydra.

Hence decline came to be accepted by most of the British elite as the solution no less than the problem. And, after all, "the British could afford to concede quite a lot" given their superabundance of buffer-zones and less-than-vital areas of interest. In Kennedy's view, "the political culture of most of the British elite - the dislike of extremes, the appeal to reasoned argument, the belief in the rationality of policies and the necessity of compromise - may form a very important part in explaining why the British Empire lasted so long". In short, the British elite, mellow and mature, ensured that the Empire's decline and fall "was a reasonably gentle process, at times slightly inglorious and involving a certain loss of face, but also avoiding the catclysm and chaos and domestic fissures which attended the fall of the Roman Empire, the collapse of the Third Reich, or, on a lesser scale, the end of the Portuguese Empire a few years ago".

For good measure Kennedy urges that Ronald Reagan and Yuri Andropov, "now presiding over their own declining empires", should take note of the final irony:

A century ago, alarmed by what they sensed as new threats to their country's world position, a significant segment of British opinion called - and thereafter never ceased calling - for hard-nosed policies to check foreign rivals, to protect British interests and markets, to turn their Empire into a self-contained armed camp... [But if they] were brought to life and given our wisdom of retrospect, one wonders if they might not moderate their criticisms. After all, keeping a declining British imperial omnibus going along the road for such a long time is a fair art, and not one that should be entrusted

to persons who are liable to shoot the passengers, who do not know how to service and oil the machine, and who have the nasty habit of trying to crash into oncoming vehicles.

This is about as provocative a verdict, in the present climate, as it is possible to conceive. For it ignores the cruel question of what future awaits those still living in Great Britain now that the decline and fall, by "reasonably gentle process", is approaching completion. In effect, Kennedy, with greater generosity of spirit, is congratulating several previous generations for having lived on borrowed time with such skill as successfully to postpone an overdue reckoning. This reckoning, however, is now at hand, as could be confirmed by many members of our younger generation who are having to come to terms with an existence of permanent unemployment in a post-imperial slum-state.

Naturally, not all of these ultimate victims of the "reasonably gentle process" would find it easy to share Kennedy's Olympian serenity and some might even resent the fact that he himself has recently elected to quit these shores for a post at Yale University. There no doubt he will be able to give expert counsel to a country, as yet neither fully declined nor fully fallen, on how it in turn can effectively emulate the splendid British example. But maddening as some left behind in broken-backed Blighty may find it, the verdict of this reviewer is that Kennedy will be giving the present generation of Americans essentially sound advice which they will ignore at their (and his) peril. Truly a case of *saave qui peuit*!

David Carlton

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BOOKS

The poet's mantle

A Proliferation of Prophets: essays in modern German literature
by Michael Hamburger
Corgnet, £14.95
ISBN 0 85635 467 8

By his fine translations of German poetry and his other writings, Michael Hamburger, a poet in his own right, has done as much as anyone else since the last war to spread interest in German literature in the English-speaking world. In this first volume of his collected essays on German writing since Nietzsche he seeks to make out a case for twentieth-century German literature, explaining why it is different from English writing.

German writers, he claims, assumed prophetic and priest-like roles, because the mantle of the theologians had fallen on their shoulders after the triumph of secularism in the days of the Enlightenment. He admits there are exceptions, and Brecht is one of them, though he too might be called a prophet, if indeed this term is at all apt. Still there is some truth in Hamburger's assertion that German writers have frequently believed that they had to be spiritual and moral leaders.

Why? The main reason is that in eighteenth-century Germany a great national culture arose before there was a nation state. From the Napoleonic Wars onward culture was mobilized for political purposes and served as a banner, as a rallying-point for German national pride and aspirations. As a result, German writers have often taken themselves rather too seriously. The public followed suit and resented those who, like Heine, treated sacred

cows with irony and contempt. Nietzsche, that arch-ironist, escaped censure because frequently he too spoke in a solemn prophetic tone.

Hamburger has, then, struck a rewarding theme. Unfortunately, he has not explored it rigorously and crisply nor called on deep historical knowledge. Indeed, most of the time he loses sight of his issue, offering instead comments on individual writers and their work. This is in fact where the value of the book lies, for Hamburger displays a genuine sensitivity to poetry. Felicitous translations are interlarded with his argument, and his sensibility is impressive whenever he writes about poems that move him, for instance by Hofmannsthal, Rilke, Trakl, Benn or Gertrud Kolmar. On these occasions he speaks with authority. But the book is not well balanced. Hamburger's main interest is in poetry; for instance, he devotes one-fifth of the book to Hofmannsthal. His accounts of narrative prose, whether they be by Thomas Mann, Musil, Robert Walser and Kafka, are relatively brief; other important writers, such as Hermann Broch or Carl Stern-

heim, are dismissed with a paragraph or less. Theatre and drama are neglected.

It is a pity that the flow of his thought is often interrupted by lengthy argument, with, or approving references to, other scholars. Moreover, his choice of scholarly works is idiosyncratic, especially in those parts of the book which were written in recent years or which have merely, so he claims, been brought up to date. (The best essay, that on Hofmannsthal, dates from 1961, parts of others have appeared in earlier books and essays, but Hamburger does not fully spell out what has appeared before and where.) In fact, he does not seem to have kept abreast with the advancing tide of scholarship. To cite one example among many: when he discusses the role of *Bildung* (self-cultivation) in German culture he pays deserved praise to W. H. Bruford's *Culture and Society in Classical Weimar 1775-1806* (1962), but ignores its sequel, *The German Idea of Self-Cultivation* (1975), which would have been far more relevant to his argument. He takes issue quite needlessly and at excessive

length with Georg Lukács and Martin Heidegger, two cloudy writers. And in support of his views on Nietzsche and on the nature of German literature he cites J. P. Stern, whose writings on Nietzsche - and not only on Nietzsche - have been given a rather rough ride.

Hamburger does not appear to care much for the writings of Thomas Mann, whom he berates for having made the role of the artist his central theme, thus showing that he does not fully understand why this theme was important in most post-Nietzschean German literature. Nor does he pay attention to the political implications of Thomas Mann's post-1919 writings, so powerfully analysed in T. J. Reed's *Thomas Mann: The Uses of Tradition* (1974).

But why dwell on the shortcomings of this book, however obvious they are, since Hamburger has so much to offer when writing about poets congenial to him? What he says about Hofmannsthal, for example, is most apposite, doing full justice not only to the early lyrical poetry, but also to the later dramas and libretti. He skillfully



The Austrian poet Rilke.

Mythical battles

Jean Genet
by Jeannette L. Savona
Macmillan, £10.00 and £3.95
ISBN 0 333 29223 5 and 29224 3

At the end of this detailed study of Genet's five major plays - *Deathwatch*, *The Maids*, *The Balcony*, *The Blacks*, *The Screens* - Jeannette Savona claims that his theatre appears "more relevant than ever to our present *fin de siècle* environment, because its experimental aesthetic, political struggles and sexual contradictions reflect our present concerns and mental hesitations".

It is a statement which I find more useful as a summary of the three strands which run through Jeannette Savona's very careful analysis than I do as a convincing claim either about Genet himself or about what our society is actually like in 1984. For Genet sets any artistic writing about him a considerable problem. On the one hand, he himself does not believe in

using language in a comprehensible manner, and totally rejects the values of western democratic society. But, on the other hand, any critic writing about him primarily with a student audience in mind has to try to write in fairly coherent and rational terms.

This study quite rightly identifies the similarity between Genet's plays and the theories of Antonin Artaud, and finds this in Genet's "assertion of a transcendental reality rooted in the subconscious". Whether such an assertion can be comprehensively explained to anyone at all let alone the kind of eighteen or nineteen-year-olds whom I teach, is a matter of doubt, though Professor Savona has a pretty good stab at it. She gives a careful account not only of when and how Genet's plays were produced but of what different interpretations critics have set out to give of them. She is good on how *The Maids* "indirectly tells the story of a mythical battle between male and female elements", and very useful in the parallel with Genet and Michel Foucault.

She emphasizes the gradual emergence of a consistent political attitude in Genet's plays, and I like her analysis of how the self-destructive quarrels among the oppressed in *Deathwatch* or

The Balcony give way to a more unified and aggressive attitude towards their oppressors in *The Blacks* or *The Screens*. I agree with her basic premises that Genet is, as a writer, better suited to the theatre than to fiction, and I like her suggestion that Irma, the rather splendid madame of *The Balcony*, may well be Genet's reply to Brecht's portrayal of him as someone who never escapes from his own subjective world.

I hope the students who read this book will have reached the stage where they can understand the view of the American feminist Kate Millet that Genet's world, "that of a homosexual criminal group, imitates with absolute frankness the bourgeois norms of a dominantly heterosexual society". They may, as I now do, see such statement as utter drivel, but I should be very sorry if we ever reached the stage where students were not sent over assault courses of radical chic before they realized how dead a deal they are getting from the society which Genet is so anxious to destroy.

Philip Thody

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Visions of disorder

The Shambler of Apollo: reflections on recent art, literature, language and the individual consciousness
by John Holloway
Cambridge University Press, £15.00
ISBN 0 521 24804 3

Short though it is, this book makes the kind of momentous claims which stimulate and irritate the fabric of the mind.

Professor Holloway begins by contrasting the painting of the Renaissance with that of our own time, viewing both through the Apollonian/Dionysian dichotomy of Nietzsche's *Book of Tragedy* and asserting that "the study of man as an individual, and the study of literature, he sees Hardy's version of the skylark as a sad come-down from Shelley's. Modern writers show the 'all-comprehending mind' taking its bearings, show order,

ness. We have, he admits, a more varied experience, but we have lost "that all-composing, all-comprehending, Apollonian totality of life". We are threatened within by a disintegration of consciousness, and from without by the dissolution of our vision of order in the external world.

Moving on to comic art, he views the nineteenth-century cartoons of Daumier as the product of a developed intellectual and emotional awareness, and as reflecting "a kind of rudimentary consciousness, made up of rudimentary needs, weaknesses, desires, resentments, self-satisfactions." An examination of political language and of slang reveals a similar deterioration: our contemporary consciousness has lost its emotional power, is reduced to the judgemental, to an interest in "externalities" and "some kind of inter-subjective, collective reality." He complains about the social and inter-subjective bias of contemporary psychology - "It has turned its back on the study of man as an individual."

Turning to literature, he sees Hardy's version of the skylark as a sad come-down from Shelley's. Modern writers show the "all-comprehending mind" taking its bearings, show order,

serenity and lucidity beleaguered. But his book, he says, is more a question than an assertion: are the signs really so ominous? And even if they are, is the coming change in consciousness really a disaster?

It must be said immediately that Professor Holloway has left himself too little space to prove his case. Though to condemn offhandedly and jargon is urgent enough, the remarks on political language and slang are too impressionistic to convince. And it is loading the dice to contrast Daumier with Snoopy. If he wants self-aware social comment, then why not *The New Yorker* or *Poey* Slimmons?

I share his belief in the individual. And of course our century has seen the collectivist spirit at its most terrifyingly bleak. But it is surely not artists who have betrayed us. As I have tried to show elsewhere, there is nothing totalitarian states detect and fear so much as modernism. They see it as a threat to their own monolithic creeds and to their univocal use of language. They dread its insistence on the lonely and tragic nature of individual experience (a feeling so powerfully communicated by Hardy's poem

"Shelley's Skylark", quoted here). The fact is that the totalitarian view itself seeks to be "all-composing, all-comprehending", to be Apollonian - but a dark Apollo, a black sun of absolute order which sucks all light into its single focus. Apollo and Dionysus his rival both have their light and dark sides, and since both are basic to experience, we must resolve their conflict through integration, not rejection.

This leads directly to the major issue. Professor Holloway's case depends on his selection of examples. It is easy for him to prove it by taking social psychology, for it is, after all, bound to be social. It is therefore bound to turn its back on the inner self. But what of Jungian psychology, an equally modern phenomenon, whose message is precisely that of "individuation", of the growth and deepening of individual consciousness by means of the integration of opposite poles? What about authors such as Hesse, who share that message, or the mythographer Joseph Campbell?

To take one's stand on Apollo alone is to look at reality from but one angle. Order, it is always unstable, reality endangered, wisdom imperfect and

explores Hofmannsthal's attempt "to extend an essential personal and esthetic view to the most diverse spheres, to cut across established divisions and specializations, to make connections everywhere." Hamburger sensibly analyses Rilke's refusal to accept conventional barriers between art and life; he also shows that Trakl's poetry is valid on many "levels" of meaning; and that Benn's best poetry, despite appearances to the contrary, does not celebrate but transcends nihilism because Benn found the appropriate form to convey what he wanted to say.

It is the poet's voice in Hamburger that speaks when he says that "only the unformed poem, the bad poem, can be negative", whereas all poetry whose form is right affirms life. Indeed, whenever he responds to poetry directly his essays convey such thought-provoking insights.

Hans Reiss

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Living theatre

Ibsen
by David Thomas
Macmillan, £13.00 and £3.95
ISBN 0 333 30595 7 and 30596 6

Ibsen criticism in England has come a long way since Clement Scott fulminated against the "crapulous stuff" of *Ghosts* in the *Daily Telegraph* of 1891. This fact emerges clearly from David Thomas's book, itself the latest in a substantial number of well-researched studies. One of the merits of this volume is the survey it provides of changing trends in not only English but international critical thought, including references to Norwegian material. That it is a useful starting-point for further reading.

The main body of the book, however, concentrates on an enthusiastic study of the plays themselves as living theatre, underlining particularly their dynamic and visual impact. After the early chapters dealing with Ibsen's life, the literary and philosophical influences on his work, and his early plays, the bulk of the study - nearly half the book - devotes to analysis of the "mature" plays, from *Pillars of Society* (1877) to *When We Dead Awaken* (1899). Here David Thomas has chosen to depart from a chronological study of development, and divided the plays thematically into two groups under the headings "dolls' houses" and "symbolist plays".

In the first group he discusses the plays which focus on problems of contemporary society, and particularly on women as examples of a repressed group, "victims of bourgeois conventions and attitudes, imprisoned in a series of doll's house marriages". He includes here not only the earlier "social" dramas but also late plays such as *Hedda Gabler* and *John Gabriel Borkman*, whose central female characters present and pictures of blighted lives. Conversely, the second group of symbolist plays contains not only most

of the last plays traditionally classed as such but also the earlier *The Wild Duck* and *Rosmersholm*, dramas in which "complex personal relationships are explored within an overall framework of symbolism or myth". This rearrangement of the plays is illuminating; it demonstrates that Ibsen did not move suddenly and decisively from one phase to the next, but constantly returned to and refined themes and techniques from earlier work.

The book concludes with a tantalizingly brief sketch of the history of Ibsen production, outlining the widely differing approaches which have been adopted, and as a corollary to that, emphasizing the openness of the texts. Close analysis of a couple of passages of everyday dialogue demonstrates how intimately Ibsen's prose depends upon the subtext, upon what is not said but must be indicated by look, gesture or simply silence - and thus how much Ibsen relies on the skill of his actors. It was to some time after the plays were written before an acting tradition commensurate to them was evolved.

What I miss in David Thomas's study is more information about early influences on Ibsen. His account of the state of the Norwegian theatre at the time is accurate as far as it goes, but needs amplifying. Frequent mention is made of the "Scribner Inquiries" play, but the term is not explained; one or two examples, perhaps drawn from the repertoire of Ibsen's own early productions, would help to demonstrate the importance of this model. And only perfunctory mention is made of Bjørnstjerne Bjørnson, that giant who had established a reputation as a dramatist while Ibsen was still literally struggling in the gutter, and who dominated Norwegian political and cultural life throughout most of Ibsen's career.

Otherwise this is a well-informed and reliable volume; recommended reading for all serious students of Ibsen.

Janet Garton

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Soldiers in power

World Armies, second edition
by John Keegan
Macmillan, £45.00
ISBN 0 333 34079 5

Barely were the cheers fading in Argentina than they started up again in Nigeria. On one side of the Atlantic they acclaimed the return to an elected civilian government, the arrest of the former military rulers and their arraignment for infamous crimes. On the other side, they hailed the military overthrow of the elected regime, the arrest of the ministers and their arraignment for incompetence, corruption, and fraud.

The cumulative scientific study of such overthrows began some twenty years ago when there were few military regimes which had lasted as long as a decade. Times have changed. For the

last ten or fifteen years it has been possible to discern a category of - on the average, some thirty states ruled by soldiers. It contains a fairly stable core of regimes which have endured for over ten years as in Thailand, Burma, Paraguay and Mali. Outside this core lies a shifting penumbra; states like Argentina, Turkey, Nigeria and the like appear in the category, then disappear, are once more overtaken by the soldiers, and therefore appear in the list once again. So, whereas in the first studies of civil-military relations in the third world, attention was not surprisingly concentrated on the reasons for the military coup, attention has now turned to the nature and the outcome of the post coup regimes.

Here, consensus still lacks. Many assume that military regimes and civilian regimes form two disparate classes and attribute unique features to the military ones. Yet closer inspection suggests that the only feature which in all cases distinguishes the military from the civilian regimes is the trivial one, that the former are ruled by soldiers and the latter by civilians. For the world contains dozens of civilian regimes

just as authoritarian and harsh as the military ones: in the third world, the Philippines or Guinea serve as examples. As far as economic policy is concerned, the military regimes comprise fairly free-wheeling economies (Thailand), state economies (South Korea) and socialist economies (Burma), just as in the world of civilian states. In foreign policy Ethiopia points East, Somalia points West - a conjuncture, incidentally, that could change overnight if the stance of the two super-powers changed. In short, there is no political, economic, social or foreign-policy characteristic of any given military regime which is not shared to greater or less degree by many civilian ones.

Some military regimes are successful in their political or economic or social endeavours and some as we have just seen in Argentina are disastrous. Whether military rule is stable or unstable, corrupt or clean, economically successful or bankrupt, depends on what manner of men the ruling soldiers are, what moral or material support the propounding them to seize their country of power, what constraints and pressures they put on them to commit ineptitudes and folly, if not worse, far worse.

But whereas it is fairly straightforward to inform oneself on the politics, economy and social structure of the third-world countries in which the vast majority of military coups occur, the hard facts about the armies themselves have been much more inaccessible. The number of monographs on individual armies is tiny - perhaps a half dozen at most. The information contained in the authoritative *International Strategic Studies Annual*, *The Military Balance* is concerned exclusively with numbers, cost, and weaponry.

Hence the welcome to be extended to this, the second edition of *World Armies*. For the kind of study I have been discussing, it is, simply, indispensable. This large and beautifully produced volume runs to roughly three quarters of a million words, and describes the armies of 141 states. Far from confining itself to military information, it devotes a very high proportion of its space to describing the armies' historical, constitutional and political settings. It gives an

example. The first state discussed is Afghanistan and here are recounted first, the history of the state and the army's role in it; then its command structure and constitutional status; then follow the more strictly military sections on organization, recruitment, training, equipment and arms industry.

And so on, and the section concludes with an up-dating on the role of the army and its relationship to the regime since 1978. Each country-entry follows this same format.

The book is edited by one of our foremost military historians, John Keegan, and the articles are written by himself and/or an area specialist; it is as authoritative as any work of this kind is likely to be, and the information contained in it is a mine not for any understanding of the political role of armies throughout the world today.

S. E. Finer

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BOOKS

ENVIRONMENTAL SCIENCES

Earth's prime movers

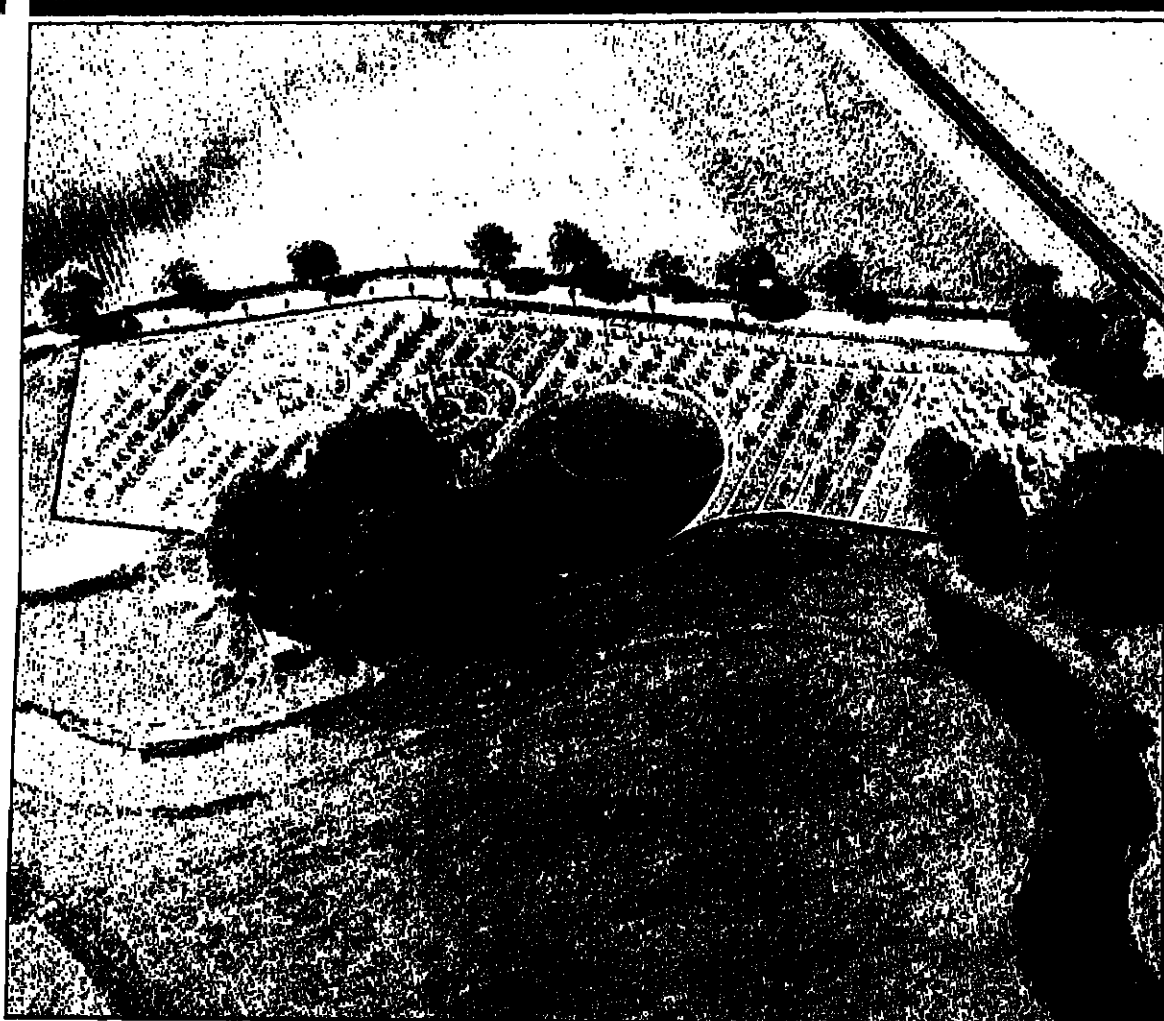
Wandering Continents and Spreading Sea Floors on an Expanding Earth
by Lester C. King
Wiley, £15.75
ISBN 0 471 90156 3

To the outsider, the idea of an expanding Earth may seem no less outrageous than that of a flat Earth or of an Earth that flies over from time to time, reversing its geographic pole positions in space. But geologists perceive these things rather differently. The "flat-landers" and "fliers" are regarded as cranks; the "flatlanders" are seen as purveyors of a legitimate scientific hypothesis, albeit one that has never attracted much support.

And the protagonists are nothing if not reputable. Chief among them is Professor S. Warren Carey of the University of Tasmania, an Earth scientist of impeccable credentials and with a worldwide reputation stemming in part from his early and vigorous support for continental drift. The best-known expander in Britain is Dr Hugh Owen of the British Museum (Natural History), an institutional bastion of respectability.

More important as an indicator of legitimacy than any individual, however, is the fact that many distinguished scientists have been willing to consider the expansion hypothesis seriously and, when opportunity arose, put it to the test. Unfortunately, what none of them has been able to do in the 50 or 60 years since the idea was born is to come up with positive proof, or at least proof positive enough to convince the majority.

There was a time during the 1960s when it looked as if Earth expansion might just come into its own at last. Up until then, geology had been wedded pretty firmly to the idea that the Earth is cooling, contracting body; and so it was perhaps hardly surprising that few were willing to go to the opposite extreme. With the advent of plate tectonics, however, the atmosphere changed. The acceptance of continental drift provided, in the possibility of



A Scott-Norman motte (the flat-topped, bowl-like mound in the centre) is surrounded by a modern cemetery, which repeats the circular theme. From Richard Muller's *History from the Air*, published by Michael Joseph at £15.95.

continental collision, a way of envisaging mountain building without the need to invoke a shrinking crust.

Moreover, the drift/spreading mechanism was up for grabs. Earth expansion seemed to be able to explain most, if not all, of the phenomena observed at the Earth's surface as well as could convection currents in the mantle. This was the expansion idea's high period of visibility, when a more than usual number of geologists were willing to give it the benefit of trial. It was rejected by the majority in the end, however, it was less because the hypothesis was necessarily wrong than because it was deemed unnecessary. In the sense that it required an additional cause (such as a gradual decrease in the gravitational constant, as postulated by Dirac) over and above that required to explain convection, it fell foul of Occam's razor as many a hypothesis before it.

Yet against all the odds, the idea survives and even seems to be gaining in strength, at least in terms of printed pages if not in the number of supporters. During the past 12 years, for example, no fewer than three books in support of expansion and one sympathetic to it have appeared, not counting this volume by Lester King, a distinguished geologist from the University of Natal. For a hypothesis that can muster fewer than 50 sympathizers around the world, that represents an astonishing publishing phenomenon.

Whether King's contribution is more or less likely to revive the subject than to send it into a coma is, however, another matter. His instincts are sound enough, to be sure. He recognizes that as geologists delve deeper and deeper into plate tectonics they are finding, to their well-concealed embarrassment, that the authorized version has almost as many anomalies as the flatist philosophy it replaced only 20 years ago. He also points out, quite justifiably, that long-term continuous seafloor spreading was a dubious concept from the outset, for there is abundant evidence from a variety of sources that the Earth tends to work in spasms. Its dominant tectonic style is episodic rather than continuous.

King's way out of all this is to urge that tectonics is governed not by lateral motion, as plate tectonics assumes, but by vertical (radial) action. Thus, the prime forces are those of volatile upper-mantle material anxious to rise to the surface and escape, and of gravity with its tendency to pull denser matter downwards. In its attempt to move upwards, mantle material will exploit every weakness in the crust, and where there are no immediate weaknesses it will force the crust upward into arches, or cymatogens, which in the oceanic context means the

ridges. The net effect is an expansion of the outer part of the Earth by degassing of the mantle.

One consequence of an Earth that is expanding (for whatever reason) is that the continents will automatically have their relative positions changed; continental drift will occur simply by virtue of the fact that the intervening oceans are increasing in area. King is no neo-fixist.

Another consequence is that subduction zones (where the Earth's surface plates meet) become unnecessary; there is no longer any compulsion, as with an Earth of constant radius, to balance newly-formed crust against crust destroyed. The most brilliant part of King's story is his reinterpretation of what are now regarded as subduction zones, not in terms of the return of laterally-moving crust to the mantle but as a combination of the descent of dense crust into the mantle under the action of gravity and the simultaneous rise of mantle material from below.

At the other extreme, however, King's attempt to demonstrate that seafloor spreading has not necessarily occurred has an air of desperation about it. His suggestion — that a sort of barber's-pole theory — that the magnetic proof of spreading is an illusion created by the movement of the geomagnetic reversal signal through the oceanic crust (which itself remains stationary) is hardly to be countenanced even if it were based on correctly-interpreted geomagnetic theory, which it isn't. The puzzle is that the attempt should be made at all, for it is perfectly possible to reconcile seafloor spreading with Earth expansion in general and even, with a bit of adjustment, with King's version of it in particular.

A more serious objection to the book, however, lies not in its content but in its presentation, which is muddled to say the least. It is annoyingly repetitious; often syntactically idiosyncratic to the point of obscurity; and frequently unclear on whether statements represent King's interpretation or the consensus view. Cross references are sometimes omitted where they were clearly intended; and numerous textual references are not to be found in the bibliography.

All of this is disastrous in a book whose intent is to persuade. It's a pity, for although King may not have the ultimate answer, buried in the book are a great many valuable suggestions that Earth scientists would do well not to ignore.

Peter J. Smith

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Surprise salt flats

The Mediterranean was a Desert: a voyage of the Glomar Challenger
by K. J. Hsu
Princeton University Press, £15.60
ISBN 0 691 08293 6

Glomar Challenger was until last November the drilling ship of the Deep Sea Drilling Project, at first an American, later an international scientific project to drill holes in the floors of the world's deep oceans to understand the geology there, so very different from that on the land.

The drill ship is an unwieldy 10,000 tons with a hundred-foot derrick over the bow, a well through the bottom of the ship through which the drill string is lowered while the ship is held still by its thruster propellers over a sonar beacon on the ocean floor. On each two-month cruise there is a different international scientific party headed by two co-chief scientists, who work with the ship's crew and the drilling crew to try to fulfill scientific targets set in the tranquility of onshore meetings, in the often hostile and certainly trying world of the deep ocean.

Ken Hsu, a Chinese geologist who passed through the United States to become professor of geology in Zürich, was one of the co-chief scientists on leg 13 of the project, which drilled the floor of the Mediterranean in August and September, 1970. During this leg Hsu and some of his colleagues arrived at the very original conclusion that the Mediterranean had

Mediterranean had entirely dried out to desert and salt flats, while the Straits of Gibraltar rose above sea level and held back the waters of the Atlantic. South of Nice, the land descended into a wide dry basin across which it would have been possible to walk all the way to Tunis, past gravelly wadis, sand dunes and salt encrusted plains. The idea did not gain immediate acceptance from a good half of the scientists on the ship, and, although many of these have been convinced in the past 13 years, there are still scientists who hold out and believe that the conclusion is untenable.

What Hsu has done in this book is to tell the story of the leg, explaining clearly and non-technically why he arrived at the conclusion he did, charting the evolution of a paradigm shift and relating it to the stresses and strains of doing creative science against a time limit, with a group of people of very different temperaments and specialties. I have set in the same position on other deep-sea drilling legs and can assure you that Hsu's account conveys precisely the tensions, frustrations and triumphs, the firing off of projects to the headquarters of the project as the only way of relieving your shipboard stresses, the sudden outbursts of rage at what you see as the incompetence of others, and the frustration which you have to leave a hole just as it always seems, above the critical horizon, in order to reach port on time, and then get there 36 hours early.

As always with science, Hsu (to what seems at the time to be lucky) played a vital part in the work. Hsu is not only imaginative and creative, as I know from experience, not only at times volatile and irascible, as he makes clear in his honest narrative, but he also has been able to achieve a

It is entirely characteristic of the evaporation of shallow sea water to give broad salt flats. That point, it is clear, was the crucial step in the paradigm shift, that and the drive to maintain his case over the irritating conservatism of his scientific colleagues.

Not only is the book good fun, and an honest account of how real science works, but it is a lesson for all practising scientists, especially those who find themselves tempted to be irritatingly conservative.

J. R. Cann

J. R. Cann is professor of geology at the University of Newcastle upon Tyne.

Planetary origins

The Search for Our Beginnings
by Robert Hutchison
British Museum (Natural History)
Oxford University Press, £7.95
ISBN 0 19 558505 5

In the summer of 1980, the European Science Foundation organized a meeting to discuss the future of planetary sciences in Europe. At the time, the science budget of the European Space Agency (ESA) allowed a new space project costing about 100-150 million pounds to be initiated. The project was to be a study of the solar system, to be considered every year or so. A recent report of the meeting, dominated

by instruments to explore the solar system, was to identify a planetary mission, having unanimous support from the community, which could secure ESA's budget from the astronomers who would have their own ideas on how it should be spent.

During a particularly lengthy session, respectable scientific cases were presented for a polar orbiting spacecraft for the Moon — rejected as old hat, the Moon had already been visited by Apollo; a Mars lander — far too expensive; a rendezvous with several asteroids — technically very difficult; and so on. One exasperated participant, leaving his seat, trudged to the back of the hall and turning, said "Why not spend it on meteorites? They could tell you more about the solar system than all your missions put together!" Of course, this is an overstatement, but the point is beautifully illustrated in Robert Hutchison's book.

Dr Hutchison's theme is what information can meteorites reveal about the origin of our solar system, the planet we live on, and even how life began. He would be the first to acknowledge the value of space missions in interpreting meteorite data, and he argues the corollary most eloquently. Thus, because we have ground truth, we are fairly confident that serendipity in the form of meteorites, has provided samples from Mars and the Moon.

Perhaps the Giotto spacecraft mission to Halley's comet in 1986, will confirm Hutchison's thesis that a relationship exists between carbonaceous meteorites and the most spectacular objects in the solar system. But we will have to wait considerably longer for a verification of ideas such as that at least 12

lar class of meteorites derive from the fourth largest asteroid, Vesta; or, indeed, whether another group of samples were formed in the vicinity of Mercury.

The greatest strength of the meteoritists' approach to understanding planetary geology is its ability to provide information about various depths within the interior. Thus, we have samples which may be interpreted as representative of core, mantle, crust and regolith (soil layer) from a variety of planetary sources. Even on Earth, as we have only managed to drill a few tens of kilometres into the crust, we must rely on the interpretation of seismic data and the occasional mantle inclusion in volcanic eruptions for our knowledge of its interior. The deepest hole on an extraterrestrial body was a punt, 2.6 metres made during the later Apollo missions.

Hutchison's book, however, is not intended for the specialist geologist. In his preface, he states his intention to pay a debt to the public at large, who foot the bill for scientific research but seldom see the results in a form that they can understand. Using simple terms and avoiding a patronizing style, he manages to put across even difficult subjects, such as age determination without mathematics or complex photomicrographs and colour plates. The book ought to be compulsory reading for anyone interested in the origin and early evolution of the Earth and the other planets.

C. T. Pillingier

C. T. Pillingier is a member of the planetary sciences unit in the depart-

BOOKS

ENVIRONMENTAL SCIENCES

Images from space

Man on Earth — the marks of man: a survey from space
by Charles Sheffield
Sidgwick & Jackson, £12.95
ISBN 0 283 98956 4

The visual splendour of Charles Sheffield's books of images of the Earth from space — *Man on Earth* and its predecessor *Earthwatch* (Sidgwick & Jackson, 1981) — stems mainly from the technology which produced them. It is a technology which holds enormous promise for monitoring the incredibly diverse features of our planet's surface, their continual change by natural factors and humanity's activities, and their use in guiding exploration for new sources of minerals, fuels, water and biological resources.

Unlike *Earthwatch*, which examined the natural diversity of the Earth's surface, *Man on Earth* uses 68 stunning images to illustrate the range of human activities on Earth. The structure and some of the text leave a lot to be

desired but that does not matter; the images contain the message. It is used to be said that the only man-made object visible from orbit is the Great Wall of China. Well, that is old hat. Take a look at the oil sands mine in Alberta, New York, the Suez Canal, the Almagordo nuclear test site, and even Sandown, Isle of Wight. In a year, even this book will look shabby when satellite images, with a 20 metre resolution instead of 80 will be publicly available.

The images are not photographs. Like the aliens in space invaders, they are digital images, and like television pictures they are transmitted to Earth by microwave signals. The sensors aboard such satellites sample the visible and infrared radiation reflected by the Earth's surface. Filters separate this radiation into narrow wavebands — in this case into green, red and two infrared bands — the brightnesses of which are measured electronically. (Blue light is rarely measured because it is dominated by atmospheric haze — in effect by blue sky.) The brightness of each scene in each band is then broken down into individual round numbers corresponding to rows and columns of small rectangles on the ground. When these "pixels" are reassembled in a computer and assigned a brightness level corresponding to their digital numbers, the image itself is recompiled on a colour television or on film.

The system used by Sheffield does not produce natural colour images. Instead, the three primary colours — red, green and blue — used in colour television are assigned to infrared, red and green, thereby producing false colour pictures. Although unusual in appearance, such pictures have one considerable advantage over natural colour: vegetation reflects infrared

Scottish geology

Geology of Scotland (second edition)
edited by G. Y. Craig
Scottish Academic Press,
£35.00 and £17.50
ISBN 0 7073 0258 7 and 0316 8

Books on geology at university level tend to reflect the compartmentalization of a subject which is now so large and complex that the task of describing "the geology" of a large piece of our Earth is an extremely difficult one involving the collaboration of numerous experts in different fields. So that the prospect of a book entitled *Geology of Scotland* excites both admiration and the kind of nostalgic pleasure one obtains from the writings of Victorian travellers describing the natural history of some remote piece of the Empire.

Despite the inherent awkwardness of a country-by-country approach to geology, there are very special reasons why Scottish geology should receive such treatment. It is because of its sheer complexity, partly because of its historical importance, both in the early development of the science and in the subsequent formulation of new concepts in many different fields. Scotland must be the most intensively studied area in the world. Student courses in many countries contain frequent examples drawn from Scottish geology, for which a comprehensive modern reference work is invaluable.

Geology of Scotland, edited by Professor Gordon Craig, is the second edition of a work first published in 1963 and used extensively as a reference text, especially in undergraduate courses, for ten to fifteen years. In the past five years it has been in many respects seriously out of date so the appearance of this completely revised edition will be much appreciated.

The organization of the book is basically stratigraphical and follows the same pattern as the earlier edition. Each of the 12 chapters, dealing with specific geological periods, has been revised and five have been completely rewritten by different authors. The new introduction, a masterly summary encapsulating the whole geological evolution of Scotland in 22 pages, is by Dr A. L. Harris — a worthy successor to the late Professor T. N. George, who was a great exponent of conciseness.

Many important developments since 1963 are reflected in this revised edition. Advances in structural geology (for example, thrust tectonics) the nature of the basement, the nature of the

igneous and metamorphic processes, are reflected in major changes in certain chapters, especially relating to the Caledonides. The search for oil has resulted in an enormous increase in the knowledge of offshore stratigraphy and structure, and this has transformed, for example, the chapter on the Permian and Triassic, and the section on oil and natural gas now constitutes the most important part of the concluding chapter on economic geology.

Revision is somewhat patchy, but all authors have included greatly extended reference lists. However, although these are one of the most useful features of the book, they seem to be generally complete only up to 1979; and because of the long period of preparation of the volume not many additional have been made since then. This excellent book will be an invaluable source of reference for all those interested in Scottish geology.

R. G. Park

R. G. Park is reader in geology at the University of Keele.

Geological statistics

Statistical Methods in Geology
by R. F. Cheeney
Allen & Unwin, £12.00 and £5.95
ISBN 0 04 550029 0 and 550030 4

Since the mid-1960s there has been increasing emphasis on quantitative methodology in geology, driven by the necessity for improved interpretation methods in structural and petroleum geology, petrology and exploration geochemistry, resource appraisal, and so on. In consequence, the use of statistical methodology must now be an accepted part of the education of every geologist.

Cheeney's book is intended to be used as an introduction to these techniques for undergraduate geology students, but would be equally suitable for postgraduate students and perhaps those in industry. It is largely understandable without much knowledge of algebra or trigonometry.

The author makes it clear that the geologist should make use of the statistical approach to improve upon vague verbal descriptions of the attributes of material encountered in everyday experience. Examples include: determination of the average size of a sample of beach pebbles; size of the benthic fauna; the number

more efficiently than visible light and as a result it shows up as various red hues instead of monotonous darkish green. Rocks and soils appear in almost their familiar hues; cities show as blue-grey, whereas water, which absorbs infrared, often appears black. The sharpness and brilliance of Sheffield's images also stem from the nature of the data. Because they are rows and columns of brightness numbers, a computer and an operator with flair can change these values to adjust contrast, colour balance and edginess. The operator can also draw out information hidden within the numbers, and express it as a stimulating image. Clouds permitting, digital images can be produced for different dates, thereby expressing change as well as form and content. If nothing else, *Man on Earth* therefore gives us a glimpse of a unique artform contained within a powerful scientific tool.

Man on Earth is a compulsive propaganda for remote sensing. Although such images and their applications have been readily available for a decade, their revolutionizing use is limited to a few hundred experts. The only positive outcome of the Malvinas (Falklands) conflict was the chilling reminder to the wagers of war that the most powerful combatant was wealthier. Only satellite images and their digital processing could provide accurate and timely forecasts of weather and sea state. Not surprisingly, British remote sensing has subsequently received major boosts in funding. Perhaps it will now be used more appropriately to help solve problems of the third world.

Stephen Drury

Stephen Drury is lecturer in Earth sciences at the Open University.

size varies with lithology; comparison of the number of sides in polygonal mud-cracks with those formed in columnar basalts; examination of the relationship between major element chemical components in a suite of lavas; two-dimensional orientation of fossils on a bedding plane; and the dimensional orientation statistics of joints and bedding planes in a variety of circumstances. All are immediately understandable in the context of geological experience even at an early stage of training, and have a pleasantly Scots flavour about them.

Methods covered are similar to those found in most elementary statistics textbooks, including those based on assumed distributional forms (for example, the Gaussian distribution) and those which are not (non-parametric methods). However, as the treatment is aimed very much at the practising geologist, much theoretical background material is omitted. In general, each method is covered in a similar way: description of the method, followed by application in a series of steps — a statement of the null and alternative hypotheses; choice of the statistical test; choice of sample size and level of significance for the test; evaluation of the distribution of the test statistic; definition of the critical region for the test; the final calculation of the test statistic; and the consequent decision. Although this "cook-book" approach, it does serve to make the methods easily applicable by the beginner.

Contents include: elementary probability; contingency tables; the binomial and Gaussian distributions; confidence intervals for the mean and proportions; the median, Wald-Wolfowitz and Mann-Whitney U tests; Pearson and Kendall correlation coefficients; and an introduction to linear regression. In contrast to a number of earlier books of this type, Cheeney includes chapters on two-dimensional and three-dimensional orientation statistics covering the von Mises, Fisher and Bingham distributions (a knowledge of stereographic projection would be helpful for this latter). And the book concludes with an introduction to sampling methodology. This introductory text will be particularly useful in undergraduate courses.

R. J. Howarth

R. J. Howarth is reader in mathematical geology at Imperial College, London.

A second edition of Andrew Goudie's *Environmental Change* has been published by Clarendon Press: Oxford University Press at £15.00 and £6.50.

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Edited by Ian Rolfe

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February 1984 60 pp Paperback £2.95

Statistical methods in geology for field and lab decisions

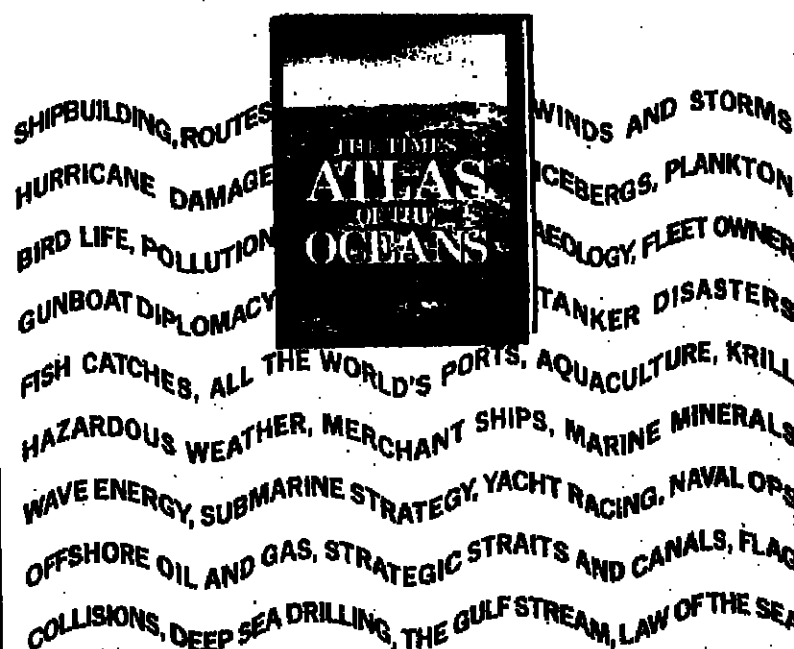
R. F. Cheeney

Assuming no more than basic algebra and trigonometry as background, this text introduces the student and professional geologist to the techniques that will be found useful in solving real geological problems.

1983 186 pp Hardback £12.00 004 650080 4 Paperback £5.95

George Allen & Unwin Ltd., PO Box 18, Park Lane, Hemel Hempstead, Herts HP2 4TE.

George Allen & Unwin (1983)



As varied and fascinating as the sea itself.

This magnificent work of reference with over 550 new maps, diagrams and photographs is indispensable to all those who use and love the sea. The Times Atlas of the Oceans is available from leading bookshops at £30. Enquiries to Times Books 16 Golden Square, London W1

BOOKS

ENVIRONMENTAL SCIENCES

Field guides

Field Geology in the British Isles: a guide to regional excursions by J. G. C. Anderson
Pergamon, £19.50 and £8.95
ISBN 0 08 022054 1 and 022055 X
The Volcanic Rocks of the Lake District: a geological guide to the Central Fells by Frank Moseley
Macmillan, £4.95
ISBN 0 333 34977 6

Directed towards British geologists and visitors from overseas, Professor Anderson's book sets out to provide a comprehensive set of guides to the field geology of the British Isles. The main chapters in which the guides themselves are set out (four to nine) are preceded by three chapters briefly providing advice on relevant matters such as conservation, access to land, sources of geological information, means of transport, accommodation and type of topographic and geological map available. Though

reasonably comprehensive, this is necessarily very generalized. In particular, I would have been glad to have seen the conservation of geological sites more positively advocated. A serious side-effect of the publication of geological guides is to draw the attention of geological "vandals" and large school and university parties to sites which are consequently severely damaged. In particular it might have been beneficial to cite the Nature Conservancy's protected geological sites of special scientific interest to alert the conscientious geological leader.

Suggested access to the selected parts of each geological terrain is from particular centres; thus for example visitors to the north-west Caledonian Front which is considered to be a "Caledonian terrain with Caledonian metamorphism" are advised to use five centres — Durness, Inchmarnock, Kinlochewe, Strathcarron and Broadford. These centres and those throughout the book are well chosen. The range and diversity of geological terrains described fully justify the view that the prolonged and varied history of the British Isles offer a unique opportunity to study a range of rocks and phenomena unequalled in a small area elsewhere in the world.

However, it is in this considerable range and complexity of phenomena that lies the book's undoing. To produce a book of just over 300 pages on a subject so diverse requires generalization on the grand scale. The introductions to chapters and to sections within chapters are often so brief and generalized as to be almost meaningless when applied to the detailed geological sections to which they refer; in some

instances they are so oversimplified as to be actively misleading. To make use of the guides as a leader of parties receiving higher education, the teacher would have to possess a large amount of background knowledge of the geology of the region and of any scientific issues arising from the interpretation of the rocks. Although Professor Anderson sets down the inquiring geologist on a very large number of sites of geological interest, many of which have been well chosen, the treatment of these sites is almost purely descriptive and the maps of routes and locations are so generalized to be of little value to a geologist on the ground in the realistic conditions of adverse weather or with a dozen or so restive students at his or her back.

British users of the guide will need to do a great deal of background reading in addition to Anderson and T. R. Owen's *The Structure of the British Isles* (Pergamon, 1980) and carry the British or Irish Geological Survey maps with them in the field. Professional and academic geologists will find the lack of precision or of rigorous analysis of the exposures exasperating; the teacher of pre-sixth form pupils in school will be frustrated by the lack of precision in placing individual exposures. Although Professor Anderson's encyclopaedic knowledge of the geology of the British Isles is to be greatly admired, it has been too diluted by the demands placed on him by this book.

It is difficult to see the book coming into serious competition with the accurate and detailed guides published by the Geologists' Association, although libraries might find it a useful publication for their readers to use as a general

starting point on which to build a geological holiday. Most individuals and geological party leaders focus on one fairly limited area for a field excursion or training course. To attempt to acquire expertise by means of this book, they must buy information about the whole of the British Isles which they might well not require.

By striking contrast *The Volcanic Rocks of the Lake District* by Frank Moseley is a guidebook which caters admirably for the requirements of advanced level school and beginning university students. After a brief introduction to the Lake District in plate-tectonic terms and using modern volcanic analogues such as Mount St Helens, the book goes on to illustrate and describe the volcanic, intrusive and structural features of the Lake District which relate to the Lower Palaeozoic era and to the Caledonian orogeny. This excellent introduction leads into 16 separate excursions, characterized by accurate grid references, illustrations of the structures, fossils, volcanic rocks and sediments to be visited, large-scale maps showing detailed routes, and sketches of topography on which geological lines have been imposed.

Although the photographs are indifferent (far too dark and lacking definition), it is a book that amateur geologists and school and university teachers who have an interest in Lake District geology should certainly buy.

Anthony Harris

Anthony Harris is head of the department of geology at the University of Liverpool.

Urban links

The Urban Environment by Ian Douglas
Edward Arnold, £9.95
ISBN 0 7131 6392 5

A book on the urban environment by a professor of physical geography might be assumed to be restricted to such topics as applied geomorphology and applied climatology. Certainly such matters as land-use, hazard, water supply and smog are covered, but this book ranges very much more widely to cover all the direct and even many of the indirect effects of urbanization.

Von Thunen's rings are here, followed by description of the sources of fresh food for Singapore, Port Moresby, Suva, Kuala Lumpur, La Paz, Hong Kong, Tokyo and London. Indeed, in these sections it is not clear what limits have been placed on the concept of urbanization and its impact, and I found myself doubtful that this particular extension of the concept of the urban environment is justified. None the less, the bulk of the book is concerned with the urban environment in a direct sense, with chapters on urban climate, the impact of urbanization on hydrology, and a chapter on the geomorphology of the city. Waste disposal and water supply are fully covered. A useful chapter discusses the role of urban planning in the reduction of hazard.

Professor Douglas makes a determined attempt to impose a systems structure on his material, and not only the titles but the opening sections of most chapters exploit this approach well. Thus, chapter six starts encouragingly with a comparison of urban nutrient balance, with very full figures for Hong Kong and Sydney, and effective detail on the circulation of phosphorus. However, data are unavailable to extend this approach, although I presume that the tabulated data on phosphorus discharges to Lake Erie might be linked back to the inputs which produce them, with a check on the feasibility of this in quantitative terms.

A few pages further on and the systems concept has been lost sight of, with very mundane descriptions of lead pollution and acid rain. If we take lead pollution as an example, surely the concept of inputs and outputs could have been developed to discover how far known levels of petrol consumption in cities can account for the levels observed; even a hint that such a link might be explored would have encouraged the reader to think along those lines.

The book is encyclopaedic in its detail. In places there is one example in each paragraph; elsewhere we flit from town to town with each successive sentence. Although these examples are well linked to the very full bibliography, as I have already suggested, too much of the book is descriptive and anecdotal, and too little use is made of unifying ideas. As a text it will undoubtedly be useful in courses on this topic, now rather common as replacements for the regional geography courses of past years.

The urban environment is not defined as readily as a region such as North America or Australasia, but it is a way of studying part of the world that has some unifying attributes. Whether the result is really much better than our much maligned regional courses is hard to say. It seems to remain usefully descriptive and obsessed with detailed case-studies. It certainly suffers from the same unevenness of information that so undermined regional geography. It will be interesting to see how far both books and courses can evolve towards a level of synthesis which will be intellectually satisfying.

While such courses remain fashionable, however, textbooks like these are invaluable teaching aids and this one is a very good example of the genre.

Keith Clayton
Keith Clayton is professor of environmental sciences at the University of East Anglia.

The proceedings of a British Geomorphological Research Group Conference designed to revitalize the concept of "large-scale" geomorphology have been edited by Rita Gardner and Helen Scoging and published by Clarendon Press, Oxford, University Press at £20.00.

Henry Charnock is professor of oceanography at the University of Southampton.

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BOOKS

ENVIRONMENTAL SCIENCES

Physical attraction

Paleomagnetism: principles and applications in geology, geophysics and archaeology by D. H. Tarling
Chapman & Hall, £25.00 and £12.95
ISBN 0 412 33920 5 and 25100
Rock and Mineral Magnetism by W. O'Reilly
Blackie, £19.50
ISBN 0 216 91460 4

Paleomagnetism is the study of the magnetism acquired by rocks and other natural materials as they are formed. This fossil magnetism is acquired from the ambient geomagnetic field. It is a remarkable phenomena because (with the exception of radioactivity) it is the only physical property unique to the time of formation which can be measured and evaluated at any later time. It is currently being applied as a tool to an increasing range of problems in geology, physical geography, archaeology and geophysics.

No general texts on this subject have appeared since 1973 and a new book embracing developments of the past decade is long overdue. This volume, an expanded and updated version of Tarling's earlier book *Principles and Applications of Paleomagnetism* published in 1971, provides a complete outline of the subject covering the origin and properties of the magnetism observed in natural materials, the methods of sampling, measurement and analysis, and the applications of the subject to geology, archaeology and the study of the Earth's magnetic field.

Magnetism is a vector, that is, it has both magnitude and direction, and these two properties have been studied both together and in isolation. The magnitude of the ancient geomagnetic field is a difficult property to determine precisely because it can be readily affected both by chemical changes and by the methods used to determine it. As a result the study of this property is still in its infancy. Although it has been used successfully to trace the source of archaeological artefacts, its main application has been in understanding the behaviour of the Earth's magnetic field.

The direction of magnetism is much more readily evaluated and has seen application in fields covering timescales of hundreds of years, such as determining the firing dates of kilns, to timescales of hundreds of millions of years for tracking the movements of continents over the Earth. A useful addition to this new volume is a summary of our present knowledge of extraterrestrial magnetism. The Moon now has virtually no magnetic field but lunar samples (which were mostly formed between 3,900 and 3,100 million years ago) acquired magnetism in a significant field and suggest that the Moon originally had a liquid iron core generating a magnetic field in the same way that the Earth still does today. Venus and Mars no longer have significant magnetic fields but we must await acquisition of surface materials to determine whether they too once possessed one. Both Jupiter and Saturn still have significant magnetic fields.

I have two general criticisms. First, many of the diagrams are disappointing and the captions often incomplete. The illustrations suffer from being stencilled, often crudely, and are frequently over-reduced so that critical information is obscured. This criticism applies particularly to the continental reconstructions and plots of paleomagnetic poles where, in addition, the significance of lines of latitude and longitude and lines across continents (presumably tectonic boundaries) are not indicated.

Second, although we are given a taste of a very wide range of applications, there is no comprehensive or even up-to-date assessment of each field. The coverage is thus uneven. Aspects such as Tertiary-Mesozoic paleomagnetism (2 million years to 200 million years ago), in which the subject is well served, are well summarized. However, it is prior to 300

million years ago, a time period from which we have no ocean crust preserved for study, that paleomagnetism comes into its own as the only movement available for quantifying the movements of the continents. And here the book barely touches on many recent developments. In the geomagnetic summary, the careful studies of Egyptian mudbricks which have yielded a detailed history of the magnetic field in the Nile Valley between 0 and 4,000 bc are displaced by examples from elsewhere of poorer quality and age control. However, these problems of balance arise because the subject has grown too large for one person to summarize adequately. It means that some parts of the book will appeal to the specialist and other parts to the general reader.

Dr Tarling has himself undertaken research work in fields ranging from very young archaeological materials to very old rocks from many areas, and he is better qualified than most workers to write a general text of this kind. The book is a brave attempt to cover a rapidly-diversifying field and will certainly prove a valuable introduction to the subject for workers in many disciplines.

The magnetism in most rocks is a robust phenomenon. Thirty years of study have shown that it yields a remarkably accurate and consistent picture of the past geomagnetic field, and there has been a minimal incentive to analyse its physical causes. Indeed, these causes are often very elusive and the study of rock and mineral magnetism has thus remained a rather esoteric subject which has done little to fertilize the wider study of paleomagnetism. For this reason it is particularly pleasant

to see a single readable volume presenting what is known about mineral magnetism in a form digestible to workers in a wider range of disciplines.

This is a particularly eloquent and well-balanced book. In a concise and neatly-illustrated text the author reviews the magnetic minerals in rocks, describes the nature of magnetism at an atomic level and the processes by which magnetization takes place. He proceeds to give a comprehensive assessment of the magnetism (called thermomagnetic) which materials acquire as they cool. Although other processes of magnetization are less well understood, the author presents an admirable summary of a difficult field and concludes by outlining the links between the physical ground-work that he has described and the applications more fully covered in Tarling's book. A discussion of the stability fields in which iron minerals, and particularly the magnetic ones, grow in natural environments could have proved a useful complement to the first chapter and made the book more directly relevant to geologists and geographers who use these minerals as environmental indicators and are increasingly using their magnetic properties.

However, this very readable, though primarily specialist, text will prove an invaluable guide to students wishing to probe the physical origin of magnetizations which they are applying to other problems.

John Piper

John Piper is reader in geophysics at the University of Liverpool.

Stopping the rot

Conservation in Perspective (second edition) edited by A. Warren and F. B. Goldsmith
Wiley, £25.00 and £11.50
ISBN 0 471 10321 7 and 10381 0

The stormy passage of the Wildlife and Countryside Bill together with its equally controversial aftermath, have certainly made conservation a political issue. But in the welter of accusation and counter-accusation that has dominated the press and some academic journals recently, the scientific basis for conservation has sadly been missing. This book provides the most comprehensive statement on the science and philosophy of conservation that has appeared in more than a decade.

The book itself is a complete revision of its ten-year old predecessor under the same title, edited by the same team and written by many of the original authors. About one third of the 23 contributors teach in the much admired conservation management course within the University of London (at University College and Wye College); the remainder are all distinguished researchers in the specialized areas about which they write. All have brought their material up to date in an admirably clear and concise manner. The chapter references alone are almost worth the purchase price.

The book is divided into three sections. The first provides the ecological basis both for the philosophy of conservation (why we should seek to protect and manage representative habitats) and its practical application. Chapters dealing with the principal biotopes (land, marine, intertidal zone, lowland heath, upland moor and woodlands) review the main ecological processes involved, explain why parts of each of these biotopes deserves to be preserved and offer management advice. Perhaps the best are those on moorland (suggesting that moorland burning is unwise unless very carefully controlled) and the ancient woodland (outlining a powerful case for managing these woods for their aesthetic and conservation interest rather than for timber production).

The second section takes a number of conservation themes (such as the ecological effects of pesticides, upland afforestation, and deerlet land restoration, and shows how ecologists can provide vital information for sensible management. The authors also give sound reasons why resource development agencies (individual farmers, the forestry commission, agricultural

advisory bodies) must heed the pragmatic advice of conservationists. The chapters on upland afforestation, for example, outline a good case for allocating some areas out of bounds to coniferous afforestation and shows how modest additional investment in deciduous woodland within softwood plantations can have enormous conservation and amenity value. The Forestry Commission is mindful of this, but needs to be pushed further. Likewise, the chapter on herb-rich meadow management is refreshingly authoritative and should be read by farmers and conservationists.

The third section is the weakest, but this is mostly because it covers ground made familiar because of the current controversies. The authors look at the history and organization of conservation, notably the rise of the voluntary movement and the national parks. There are also studies of the faulty economics of land drainage and of conservation in Europe. Though mostly sound, the material is uncoordinated. Two crucial chapters are missing: one should have assessed the state of contemporary conservation policies and financing; the other should have outlined what needs to be done to enhance the effectiveness of conservation in the future.

Conservation either as a philosophy or as a practical guide is by no means secure in this country. Indeed, the omens are disturbing. The Nature Conservancy Council (NCC) is so bogged down in scheduling and protecting sites of special scientific interest that its much heralded Great Britain Nature Conservation Strategy is long delayed. The Nature Conservancy Council are politically weak in the face of the major land development interests and do not coordinate strategy with the NCC. Manpower budgets are constantly being reduced in real terms just at a time when conservation could serve the wider public interest and provide jobs for skilled graduates of the kinds of courses for which this book is intended. The vital relationship between official agencies and the vast array of voluntary effort requires very careful nurturing.

In the ten years since the first version of this book was written, much has changed. At least a third of the nation's most cherished conservation habitats have been lost, many of the regionally most typical landscapes have changed in character, and a disturbing number of plant and animal species have become endangered. This book tells us informatively why the rot should be stopped. Let us hope that it stimulates an equally informative assessment of how this can be done.

Timothy O'Riordan

Timothy O'Riordan is professor of environmental sciences at the University of East Anglia.

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OROGENY

by A. Miyashiro, Department of Geological Sciences, State University of New York, Albany, USA; K. Aki, MIT, Cambridge, Massachusetts, USA and A.M. Celal Sengör, ITU Meden Fakültesi, Istanbul, Turkey

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Desert exploits

The Arid Lands: their use and abuse by R. L. Heathcote
Longman, £7.95
ISBN 0 582 30048 7

The arid lands are one of the world's major ecosystems, and in spite of their low proportion of the total world human population (probably around one seventh), they are important because they cover around one third of the world's land area, provide a large proportion of the world's oil and natural gas production and reserves, are exploited for over half of the world's production of precious and semi-precious minerals, and generate at least one fifth of our food supplies.

Their nature and use, however, are extremely varied. One need only compare the oil-rich states of the Gulf, or the glittering lights of Las Vegas with the grinding poverty of farmers in somewhere like Upper Volta, to realize the disparities in wealth and development. One need only compare the complex and sophisticated groundwater exploitation schemes of the Texan aquifers with the still prevalent use of bullocks to raise well water in Rajasthan in order to appreciate the temporal co-existence of different technologies. One need only compare the political and economic responses of Muslims and Jews in the Middle East to see how important are different types of institutional structure for arid zone development. And one need only compare the relatively stable tectonic

platform of western Australia with the dangerous fault terrains of western America, to understand how variable the physical environment may be.

Dr Heathcote's book aims to explore, on a global basis, this variability in the character, history, use and problems of the arid lands. To this end the book has four main sections. The first of these, the context of arid resource management, defines and delineates the arid lands, and relies heavily on the classification developed by Meigs over 30 years ago. The second part, the resources of the arid lands, is more comprehensive, and deals with such topics as climate, terrain types, water resources, plant resources, animal resources and energy. Part three includes a discussion of the evolution and impact of human resource use strategies, including nomadism, ranching, rainfed agriculture, irrigation, mining and urbanism. The final part considers problems of resource management, including land tenure, the allocation and administration of resources, and the role of human perception.

The book has various strengths: it is attractively produced and well illustrated; it takes examples from a variety of different arid areas; and it is well referenced and up to date. However, it also has certain weaknesses, ranging from a lack of concern with the general issue of the ecological resilience and stability of arid ecosystems, to a rather general omission of geomorphological issues and problems (for example, arroyo incision, slope instability, ground subsidence, salt attack on buildings, induced salinity, clearing, wind erosion, urban flooding, etc.). Furthermore, it is surprising that there is no treatment either of land reform policies in the Middle East, or



Desert near Djanel, Algeria. From Quentin Crewe's *In Search of the Sahara*, published by Michael Joseph at £12.95.

of the causes and consequences of the enormous expansion of centre-pivot irrigation schemes in areas like the high plains of the United States. Also, a book purporting to deal with the use and abuse of arid lands might usefully have taken a deeper and more reflective look at the discussions about desertification which were such a feature of the international conference-circuit in the 1970s.

To criticise a book on the basis of what it does not say is all too easy. If,

instead, one assesses this volume on the basis of what it succeeds in covering, then it is a book that is full of useful information and one that is sound, impartial and clear.

Andrew Goudie

Andrew Goudie is lecturer in geography at the University of Oxford. He has recently been appointed professor of geography, effective from October, 1984.

Shelf seas

Physical Oceanography of Coastal Waters by K. P. Bowden
Ellis Horwood, Wiley, £27.50
ISBN 0 85312 686 0

The major physiographic division of the Earth's surface is into continents and oceans; the continents usually identified with the land and the ocean basins with the sea. But if one studies the distribution of the heights of the land and the depths of the sea this distinction becomes less obvious. Three-quarters of the land is at heights between sea level and two kilometres, three-quarters of the Earth beneath the sea is at depths between three and six kilometres, and of the solid Earth's surface only one of two fields — with heights less than 200 metres and a few extremes of mountain ranges and oceanic trenches.

The continental shelf constitutes the major transition zone; extending seawards from the shoreline for typically 100 to 200 kilometres, the shelf lies in depths between 100 and 200 metres. Beyond it the seabed falls steeply to abyssal depths of typically 4,000 metres; the boundary being remarkably sharp, with slopes of order one in ten. It is this steep continental slope which represents the more fundamental boundary between the continents and the ocean.

It also represents a boundary between deep sea and coastal waters, which tend to be studied in different ways and for different reasons. The shelf seas are, in many ways, more important: regions of landfills and departures, with increased risk of stranding and collision, highly productive relative to the deep ocean (but the desert colour of the sea); regions important for rest and recreation, but where sewage and industrial wastes are dumped; and regions where hydrocarbons and other minerals are extracted.

It is clearly important to know and to understand the winds, waves and currents and the effects they have on the seabed; the coast, harbour installations and offshore structures.

Yet until recently coastal waters were less studied by physical oceanographers, mainly, one supposes, because they present more difficult problems. In the deep ocean the balance of forces is simpler, so that knowing the pressure distribution becomes the primary requirement: in coastal waters, the currents are more affected by complicated frictional forces, the tides bulk large, the swell breaks and there are the complications of freshwater run off from the land. And it is difficult to generalize, to interpret observations at one place from results obtained at another.

Following a welcome increase of interest during the past decade, Professor Bowden has produced a book which seeks to fill the gap between the physical oceanography texts dealing mainly with the deep ocean and the few accounts of the physical oceanography of coastal waters. His treatment is essentially

based on observations, linked and interpreted by theoretical considerations expressed in relatively simple mathematics.

Although there is necessarily some overlap with the general blue water texts, the book is basically self-contained, with clear accounts of the major phenomena, waves, tides and surges, currents, temperature distribution, and mixing processes. The author does well to include authoritative statements on so many processes without the treatment becoming too eclectic. Readers seeking deeper understanding, however, will have to go to some of the many references.

This book is a sound and thorough account of the complicated physics of an important and increasingly studied oceanic domain and an encouraging start to a new series in marine science.

Henry Charnock

Henry Charnock is professor of oceanography at the University of Southampton.

Grants

LIVERPOOL
Professor J. D. Parsons, £5,500 from Leverhulme Foundation for a Visiting Fellowship Scheme (fellowship for Dr A. G. Williams; joint study programme, Liverpool/Leeds in nuclear engineering); Professor A. M. Breckenridge, £12,000 from Roche Products Ltd (clinical pharmacology of novel hypertensive agents); Dr M. L'E. Orme, £12,000 from Organon Scientific Development Group (studies of desogestrel).

EXETER
Postgraduate Medical School: Dr V. E. Dwyerhouse, Dr R. K. Jacoby, Dr G. H. Hill and Professor D. Maitland, £24,548 from the Medical Research Council; £29,993 from the Wellcome Trust; and £19,654 from the Northcott Devon Medical Foundation, for genetic and immunological research into rheumatoid arthritis.

UMIST
Dr R. W. Davies, £28,058 from MRC (special training fellowship in recombinant DNA technology); Dr A. McAuliffe, £1,500 from Cancer Chemotherapy Department at Christie Hospital (pharmacokinetics of platinum antitumour drugs); Professor J. Galside and Dr D. E. Brown, £52,638 from SERC (teaching computer programme with Satec Ltd); Dr M. E. Phlips, £20,000 from ACBA (transverse research); Professor D. Aspinall, £37,220 from SERC (microprocessors in information systems); Mr R. L. Johnson, £120,000 from EEC (experimental assembly of Europa software); Dr J. V. Pickstone, £31,431 from Wellcome Trust (medical physics in Manchester region); Dr J. V. Pickstone, £30,844 from Wellcome Trust (development of orthopaedics); Dr D. Knight, £25,000 from EEC (dissemination in recruitment process); Dr C. M. Locci and N. R. Chakraborty, £23,250 from SERC (glass resin terminations on synthetic ropes utilized to support both dynamic and static loads); Dr A. J. Yule, £27,468 from United States Army (spinal spray structure and atomization techniques); Professor P. A. Payne, £22,500 from SERC (on-line measurement of extruded plastic hose using ultra sound); Professor M. S. Beck, £28,550 from Standard Telecommunications Ltd (measurement and recognition using liquid crystal integrated components); Professor M. S. Beck, Professor G. F. Kirkbright and Dr R. W. Davies, £52,512 from SERC (automation of DNA sequencing).

NOTICE BOARD



Unmistakable ambience: Duncan Grant's studio at Charleston. From *The Omega Workshops 1913 to 1919*, a Crafts Council exhibition on show at 12 Waterloo Place, Lower Regent Street, SW1 until March 18. A complementary exhibition, *Omega: Alliance and Enmity*, will be showing at the Anthony d'Offay Gallery until March 6.

Appointments

Professor John Rorke, head of the department of mechanical engineering at Heriot-Watt University, Edinburgh, has been appointed vice-principal of the university.

HERIOT-WATT
Lecturers: J. G. Shawcross (build-

ing); R. Stocks (building); Dr E. Aorham (physics).

Professor J. D. E. Beynon, professor and head of the department of electronic and electrical engineering at the University of Surrey, has been appointed as pro vice-chancellor of the university.

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In addition, the Foundation has made 27 awards to newly appointed science lecturers to help with the early stages of independent research careers: Dr R. S. MacKay (Warwick - applied mathematics); Dr D. J. Nutt (Oxford - chemistry); Dr A. Mills (chemistry - U. Coll. Swansea); Dr D. G. Eilman (Nottingham) - mechanical engineering; Dr C. J. Howe (Cambridge - biochemistry); Dr S. M. Brown (biochemistry - St Mary's Hospital Medical School); Dr S. Conway Morris (earth sciences - Cambridge); Dr N. H. Barton (genetics and biometry - University College, London); Dr D. Sanders (biology - York); Dr M. A. Carpenter (earth sciences - Cambridge); Dr A. Greer (metallurgy and materials - Cambridge); Dr G. Housley (engineering sciences - Oxford); Dr O. D. Harkiss (veterinary pathology - Edinburgh); Dr S. C. Fry (biology - Nottingham); Dr M. Davies (anatomy - St George's Hospital Medical School); Dr A. C. Stewart (biochemistry - Cambridge); Dr C. P. F. Redfern (dermatology - Newcastle); Dr S. M. Rind (anatomy - Dundee); Dr L. R. Harris (physiology - U. Coll. Cardiff); Dr H. Griffiths (plant biology - Newcastle); Dr J. P. Embrechts (mathematics - Imperial College, London); Dr D. Gallagher (chemistry - Bath); Dr B. Hayden (chemistry - Bath); Dr N. R. Franks (biological sciences - Bath); Dr P. Embrechts (mathematics - Imperial College); Dr N. J. Maitland (pathology - Bristol); Dr I. S. Hunter (genetics - Glasgow).

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Awards

The Nuffield Foundation has announced eight special one-year science fellowships, designed to enable young lecturers in science and applied science departments to devote themselves full-time to research for one year.

Dr J. P. Platt (Oxford - role of gravity in molecular biology); **Dr I. R. Booth** (Aberdeen - biogenetics and cell membrane transport); **Dr M. G. Colman** (Essex) - optical and surface properties of solids; **Dr S. J. Ferguson** (Birmingham) - electron transport and ATP synthesis; **Dr N. J. Abbot** (King's, London) - fluid micro-environment of brain; **Dr S. Richardson** (Imperial College) - computer simulation of injection moulding; **Dr T. J. Nicholls** (Bristol) - physiology of seasonal breeding in birds/mammals; **Dr M. B. Green** (Queen Mary) - quantum gravity.

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Applicants for this appointment should have recent experience in mechanical engineering design. The post mainly involves providing a consultancy service to staff and students of the Engineering Department, supporting the development of research equipment, assisting undergraduate projects and design teaching. The post involves regular close contact with staff and students but does not normally involve lecturing duties. It is hoped to fill this post on 1 September 1984 or as soon as possible thereafter. The pensionable scale of stipends is £9,595 a year rising by nine annual increments to £14,125.

Further information and application forms for all posts may be obtained from the Secretary of the Faculty Board of Engineering, Department of Engineering, Trumpington Street, Cambridge CB2 1PZ, to whom completed applications should be sent to reach him by 5 March 1984. Any correspondence should make clear to which post it refers. (1410)

HERIOT-WATT
UNIVERSITY

Department of Chemistry

LECTURESHIP

Applications are invited for a Lectureship in Organic Chemistry. The post is full-time and involves teaching and research. The successful candidate will be expected to lead a team of research students. The post is available from 1 September 1984. Applications should be sent to the Department of Chemistry, Heriot-Watt University, Edinburgh EH1 1AH, by 15 March 1984. (1411)

University of Edinburgh
Department of English LiteratureTEMPORARY
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Applications are invited for a Temporary Lectureship in English Literature. The post is full-time and involves teaching and research. The successful candidate will be expected to lead a team of research students. The post is available from 1 September 1984. Applications should be sent to the Department of English Literature, University of Edinburgh, Edinburgh EH1 1AH, by 15 March 1984. (1412)

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The US/UK Educational
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University of Lancaster
Department of Computing

RESEARCH ASSISTANT

Applications are invited for a Research Assistant in the Department of Computing. The post is full-time and involves research and teaching. The successful candidate will be expected to lead a team of research students. The post is available from 1 September 1984. Applications should be sent to the Department of Computing, University of Lancaster, Lancaster LA1 4YW, by 15 March 1984. (1413)

University of London
Imperial College of Science
and Technology

TWO POSTGRADUATES

Applications are invited for two Postgraduate Research Fellowships in the Department of Computing. The posts are full-time and involve research and teaching. The successful candidates will be expected to lead a team of research students. The posts are available from 1 September 1984. Applications should be sent to the Department of Computing, Imperial College of Science and Technology, London SW7 2BX, by 15 March 1984. (1414)

University of Oxford
Brasenose College Oxford

DOMESTIC BURSAR

The College intends to appoint a Domestic Bursar to take office from the autumn of 1984. The post is full-time and involves financial and administrative duties. The successful candidate will be expected to lead a team of research students. The post is available from 1 September 1984. Applications should be sent to the Department of Computing, Brasenose College, Oxford, OX1 2JF, by 15 March 1984. (1415)

Further particulars may be obtained from the Secretary of the Faculty Board of Engineering, Department of Engineering, Trumpington Street, Cambridge CB2 1PZ, to whom completed applications should be sent to reach him by 5 March 1984. Any correspondence should make clear to which post it refers. (1416)

UNIVERSITY OF LONDON
UNIVERSITY ENTRANCE AND SCHOOL EXAMINATIONS COUNCIL
SCHOOL EXAMINATIONS DEPARTMENTAPPOINTMENT OF HEAD
OF RESEARCH SECTION

Applications are invited from graduates, preferably with degree level qualifications in educational research and measurement and with previous experience in research in the context of GCE examinations for the above post.

Duties will include the management of the Research Section (7+ staff), the initiation, supervision and carrying out of research investigations and preparation of reports, mainly in the field of GCE examinations and the new 16+ examination system, and preparing and presenting papers at meetings inside and outside the School Examinations Department.

Appointment will be within Grade III of the National Structure for University Administration Staff; salary on appointment will be at a point on the scale £13,515 to £18,925 per annum plus £1,188 London Allowance. Six weeks holiday plus public holidays and privilege days; membership of the Universities Superannuation Scheme.

Further particulars, together with information concerning applications, may be obtained from the Assistant Personnel Officer (SD), Stewart House, 32 Russell Square, London WC1B 6DN. Telephone: 01-638 8000 ext 4654. Closing date: 16 March 1984. (1417)

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Department of Electrical
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LECTURESHIPS IN
ELECTRONIC
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The University of the
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Suva, FijiLECTURER IN
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Applications are invited from graduates with a degree in Business Administration and appropriate work experience in administrative studies. The post is full-time and involves teaching and research. The successful candidate will be expected to lead a team of research students. The post is available from 1 September 1984. Applications should be sent to the Department of Administrative Studies, University of the South Pacific, Suva, Fiji, by 15 March 1984. (1420)

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Suva, FijiLECTURER IN
ADMINISTRATIVE
STUDIES
(Post £4,840)

Applications are invited from graduates with a degree in Business Administration and appropriate work experience in administrative studies. The post is full-time and involves teaching and research. The successful candidate will be expected to lead a team of research students. The post is available from 1 September 1984. Applications should be sent to the Department of Administrative Studies, University of the South Pacific, Suva, Fiji, by 15 March 1984. (1421)

The University of the
South Pacific
Suva, FijiLECTURER IN
ADMINISTRATIVE
STUDIES
(Post £4,840)

Applications are invited from graduates with a degree in Business Administration and appropriate work experience in administrative studies. The post is full-time and involves teaching and research. The successful candidate will be expected to lead a team of research students. The post is available from 1 September 1984. Applications should be sent to the Department of Administrative Studies, University of the South Pacific, Suva, Fiji, by 15 March 1984. (1422)

Further particulars may be obtained from the Secretary of the Faculty Board of Engineering, Department of Engineering, Trumpington Street, Cambridge CB2 1PZ, to whom completed applications should be sent to reach him by 5 March 1984. Any correspondence should make clear to which post it refers. (1416)

The University of Botswana
VICE
CHANCELLOR

Applications and nominations are invited for the position of Vice Chancellor of the University of Botswana.

The University of Botswana was established in July, 1982 and currently has an enrolment of approximately 1,400 students (including 160 pre-university science course students) in the Faculties of Education, Humanities, The Social Sciences and Science.

The Vice Chancellor is the Academic and Administrative Head of the University subject to the general control of the Council on matters of policy. As Chief Executive Officer of the University, he is responsible to the Council for maintaining and promoting the reputation, efficiency and good order of the University including the discipline of the students.

Applicants should have a distinguished record in tertiary education, substantial experience in educational administration at high level, demonstrated qualities of leadership and management ability and a commitment to the needs of advanced education in developing countries. It is expected that the appointee will assume duties by mid-1984. The Chancellor of the University of Botswana reserves the right to specify by invitation upon such terms and conditions as may be determined by him.

Basic salary: P21,012 (fixed). Benefits and allowances include medical aid plan, personal accident and life insurance, assistance towards University education of dependent children and spouse, motor car allowance, education allowance. Contract addition of 50% of basic salary and gratuity payable to staff on expatriate terms of service.

Vice-Chancellor's accommodation available for which rent is payable. Applications/nominations close on 31st March 1984.

The University of Botswana will be pleased to hear from men and women who may wish to be considered for the position of Vice Chancellor or who wish to suggest names of people to be considered. Please write in confidence to: The Registrar, University of Botswana, Private Bag 0022, Gaborone, Botswana, Southern Africa. (1423)

Queen Margaret College
EDINBURGHHEAD OF DEPARTMENT
OF PHYSIOTHERAPY

Applications are invited from suitably qualified graduate Physiotherapists for the above post which becomes vacant on 1 September 1984 upon the retirement of the present incumbent. The person appointed will be expected to lead a team of Physiotherapists in the development and implementation of a degree course in Physiotherapy and to develop research and professional advancement programmes within the Department.

Salary: £15,824 (under review). Application forms and further particulars may be obtained from the College Secretary, Queen Margaret College, Clarendon Terrace, Edinburgh EH12 8TS. Tel: 031-339 5111, Ext. 284.

Closing date for applications: 28th February, 1984. (1424)

University of Glasgow
PROFESSOR OF
ECONOMICS
(ADAM SMITH CHAIR)

The University of Glasgow intend to appoint to the Adam Smith Chair of Economics a Professor of Economics. The post is full-time and involves teaching and research. The successful candidate will be expected to lead a team of research students. The post is available from 1 September 1984. Applications should be sent to the Department of Economics, University of Glasgow, Glasgow G12 8QQ, by 15 March 1984. (1425)

University of Kent
Faculty of Social SciencesTEMPORARY
LECTURESHIP IN
ACCOUNTING

Applications are invited for a Temporary Lectureship in Accounting. The post is full-time and involves teaching and research. The successful candidate will be expected to lead a team of research students. The post is available from 1 September 1984. Applications should be sent to the Department of Accounting, University of Kent, Canterbury, by 15 March 1984. (1426)

University of Cambridge
Board of Extra-Mural StudiesJUNIOR ASSISTANT
SECRETARY

Applications are invited for a Junior Assistant Secretary. The post is full-time and involves administrative duties. The successful candidate will be expected to lead a team of research students. The post is available from 1 September 1984. Applications should be sent to the Department of Extra-Mural Studies, University of Cambridge, Cambridge CB2 3RQ, by 15 March 1984. (1427)

Further particulars may be obtained from the Secretary of the Faculty Board of Engineering, Department of Engineering, Trumpington Street, Cambridge CB2 1PZ, to whom completed applications should be sent to reach him by 5 March 1984. Any correspondence should make clear to which post it refers. (1416)

Further particulars may be obtained from the Secretary of the Faculty Board of Engineering, Department of Engineering, Trumpington Street, Cambridge CB2 1PZ, to whom completed applications should be sent to reach him by 5 March 1984. Any correspondence should make clear to which post it refers. (1416)

Open
University
viewing

Saturday February 18

- 6.30 Discovering Physics: The Message of Starlight (SPT); prog 12.
- 6.45 Graphs, Networks and Design: What is Computation? (TM201); prog 3.
- 7.10 Cosmology, Galaxies and the Big Bang (G334); prog 1.
- 7.25 Engineering Product Design: Take a Seat (T292); prog 1.
- 8.00 Microbiology and Molecular Biology: Microbiology (S322); prog 1.
- 8.25 Structure, Competition and Evolution: The Origin of the Earth (S237); prog 1.
- 8.40 Technology Foundation Course: Domes is what you make it (T101); prog 1.
- 7.15 Probability and Statistics: Chance (M203); prog 1.
- 7.40 World Politics: Vietnam: The Meaning (M233); prog 1.
- 8.00 Arts and Society (A292); prog 1.
- 8.20 The Changing Experience of Women: Women Speaking, Part 1 (U221); prog 1A.
- 8.40 Women's Lives in the Twentieth Century: Richard Hoggart - A Measure of Life (E200); prog 1.
- 9.00 Introduction to Pure Maths: Maps (M203); prog 1.

Sunday February 19

- 6.30 Food Production Systems: Monitoring World Food Production (T272); prog 1.
- 6.45 Surface and Sedimentary Processes: Geophysical Techniques (S333); prog 1.
- 7.10 Cognitive Development: Changing Cultures (E304); prog 1.
- 7.25 The History of People and Administration: The MP's Surgery (D334); prog 1.
- 7.40 Control of Technology: Time, Money and Technology (T202); prog 1.
- 8.00 The Nature of Chemistry: Stereochemistry: Rides in 3 Dimensions (S304); prog 1.
- 8.25 Biology, Brain and Behaviour: Introduction (S246); prog 1.
- 8.40 Images and Information: Your own optical laboratory (S291); prog 1.
- 7.15 Evolution, Species and Evolution (S304); prog 1.
- 7.40 Management Issues in Post-Compulsory Education: Coventry: What's another year really? (E324); prog 1.
- 8.00 An Introduction to psychology: It's a matter of opinion (D343); prog 1.
- 8.25 Science Foundation Course: Measuring the Earth and the Moon (S101); prog 1.
- 8.40 Science Foundation Course: Levels of Matter (D102); prog 1.
- 9.00 Maths Foundation Course: Symbols and Equations (M101); prog 1.
- 9.20 Quantum Theory and Atomic Structure: The Fundamental Foundations (S4331); prog 1.
- 9.40 The Ballroom: From the 18th to the 19th Century: England Through Foreign Eyes 1725-1750 (A294); prog 1.

Tuesday February 21

- 6.30 Modern Art and Modernism: Artistic Techniques (A213); prog 1.
- 6.45 World Politics: Vietnam: The Meaning (M233); prog 1.
- 7.10 Science Foundation Course: Levels of Matter (D102); prog 1.
- 7.25 Science Foundation Course: Symbols and Equations (M101); prog 1.
- 7.40 Quantum Theory and Atomic Structure: The Fundamental Foundations (S4331); prog 1.
- 7.55 The Ballroom: From the 18th to the 19th Century: England Through Foreign Eyes 1725-1750 (A294); prog 1.
- 8.00 Science Foundation Course: Measuring the Earth and the Moon (S101); prog 1.
- 8.25 Science Foundation Course: Levels of Matter (D102); prog 1.
- 8.40 Maths Foundation Course: Symbols and Equations (M101); prog 1.
- 9.00 Quantum Theory and Atomic Structure: The Fundamental Foundations (S4331); prog 1.
- 9.20 The Ballroom: From the 18th to the 19th Century: England Through Foreign Eyes 1725-1750 (A294); prog 1.
- 9.40 The Ballroom: From the 18th to the 19th Century: England Through Foreign Eyes 1725-1750 (A294); prog 1.

Further particulars may be obtained from the Secretary of the Faculty Board of Engineering, Department of Engineering, Trumpington Street, Cambridge CB2 1PZ, to whom completed applications should be sent to reach him by 5 March 1984. Any correspondence should make clear to which post it refers. (1416)

Monday February 20

- 6.30 Food Production Systems: Monitoring World Food Production (T272); prog 1.
- 6.45 Surface and Sedimentary Processes: Geophysical Techniques (S333); prog 1.
- 7.10 Cognitive Development: Changing Cultures (E304); prog 1.
- 7.25 The History of People and Administration: The MP's Surgery (D334); prog 1.
- 7.40 Control of Technology: Time, Money and Technology (T202); prog 1.
- 8.00 The Nature of Chemistry: Stereochemistry: Rides in 3 Dimensions (S304); prog 1.
- 8.25 Biology, Brain and Behaviour: Introduction (S246); prog 1.
- 8.40 Images and Information: Your own optical laboratory (S291); prog 1.
- 7.15 Evolution, Species and Evolution (S304); prog 1.
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- 8.40 Science Foundation Course: Levels of Matter (D102); prog 1.
- 9.00 Maths Foundation Course: Symbols and Equations (M101); prog 1.
- 9.20 Quantum Theory and Atomic Structure: The Fundamental Foundations (S4331); prog 1.
- 9.40 The Ballroom: From the 18th to the 19th Century: England Through Foreign Eyes 1725-1750 (A294); prog 1.

Wednesday February 22

- 6.30 Modern Art and Modernism: Artistic Techniques (A213); prog 1.
- 6.45 World Politics: Vietnam: The Meaning (M233); prog 1.
- 7.10 Science Foundation Course: Levels of Matter (D102

Polytechnics continued

PAISLEY COLLEGE

A Scottish Central Institution



PROFESSOR/HEAD OF DEPARTMENT OF ECONOMICS AND MANAGEMENT

This post will become vacant in June 1984 following the appointment of Professor P. J. Stone to the Chair of Political Economy at the University of Aberdeen.

The Department comprises a teaching staff of 23 and offers CNA A degree and honours degree courses in Business Economics with major options in Marketing, Manpower Studies and Finance.

Candidates should be competent to guide the development of research and teaching within the Department and should have an established record of research and publications.

Further particulars including details of the work undertaken by the Department, and application forms may be obtained from the Personnel Officer, Paisley College of Technology, High Street, Paisley PA1 2BE (telephone 041-887 1241, ext. 230) to whom completed forms should be returned by Friday, 2nd March 1984.

The Hatfield Polytechnic School of Business and Social Sciences

RESEARCH FELLOW IN LOCAL ECONOMY STUDIES

Applications are invited for a Research Fellow to continue and extend research into the local economy and unemployment in Hertfordshire.

The appointment will be for two years in the first instance, starting as soon as possible.

The applicant should possess a research degree in labour economics or a related field and have completed studies for such a degree. The successful candidate will be expected to make industrial contacts with a view to handling statistics.

Pre-employment enquiries may be made to the Personnel Officer, Hatfield Polytechnic, Hatfield AL9 9AB (telephone 0457 6111, ext. 214, 240 or 241).

Application forms and further details may be obtained from the Personnel Officer, Hatfield Polytechnic, Hatfield AL9 9AB (telephone 0457 6111, ext. 214, 240 or 241).

Closing date for completed applications: 22 February 1984. Please quote reference: 752 H

Colleges of Technology

LYTHAM REGIONAL COUNCIL NAPIER COLLEGE OF COMMERCE AND TECHNOLOGY

LECTURER A IN POLYMER SCIENCE AND PHYSICAL CHEMISTRY

Salary on Scale £12,228-£15,125

A Chemist or Polymer Scientist is required to lecture in Polymer Science and Physical Chemistry on a range of courses, including the CNA A BSc course in Applied Chemistry which the Department of Applied Chemical Sciences runs in association with the Lytham College of Technology.

Candidates should have a proven record of research and would be expected to show the ability and inclination to develop this in the role of the Department and College, and in particular to support research in an area which relates to the Lytham College of Technology (which is expected to commence in September 1984).

A good Honours degree, or equivalent qualification, in Chemistry or Polymer Science is essential. A higher degree, and industrial experience, would be desirable.

Application forms and further particulars from The Administrative Officer (Personnel), Napier College of Commerce and Technology, Colinton Road, Edinburgh EH10 6DT to whom they should be returned by 9 March 1984.

LYTHAM REGIONAL COUNCIL NAPIER COLLEGE OF COMMERCE AND TECHNOLOGY

LECTURER A IN MANUFACTURE

Salary on Scale £12,228-£15,125

Required in the Department of Industrial Engineering to be responsible for the development of all aspects of the subject area in a wide range of courses at Degree, Diploma and Higher Certificate levels.

Applicants should possess an Honours degree and/or equivalent professional qualification, and should preferably have had industrial research or teaching experience.

Application forms and further particulars from The Administrative Officer (Personnel), Napier College of Commerce and Technology, Colinton Road, Edinburgh EH10 6DT, to whom they should be returned by 9 March 1984.

CITY OF BIRMINGHAM POLYTECHNIC

Faculty of Business Studies and Law

Applications are invited for the post of:

HEAD OF DEPARTMENT OF LAW

Salary scale: Head of Department (Grade VI) £16,632-£18,327 pa

Further details and application forms (to be returned by 2nd March, 1984) from:

The Personnel Officer
City of Birmingham Polytechnic
P Block, Perry Barr, Birmingham B42 2SU
Tel: 021-356 9193, Ext. 215

(14101)

Sunderland Polytechnic

Faculty of Engineering
Department of Electrical, Electronic and Control Engineering

LECTURER II/SENIOR LECTURER (REC84/1) SOFTWARE ENGINEERING

Salary: Scale L17 £7,210-£10,653

Scale SL £10,653-£12,552 Bar

£13,443

Candidates are sought with experience in software engineering and the use of microprocessors and software in the design of systems.

Experience in the use of BASIC, ADA, COBOL, C, LISP etc. would be an advantage.

Candidates should have a good Honours Degree or equivalent qualification; a higher degree would be an advantage. They should also have appropriate industrial, research and/or teaching experience.

An application form and further particulars may be obtained from the Personnel Officer, Sunderland Polytechnic, Langham Road, Sunderland, Sunderland S66 7BB or telephone Sunderland 76555, Ext. 11.

Closing date: 22 February 1984.

North Staffordshire Polytechnic

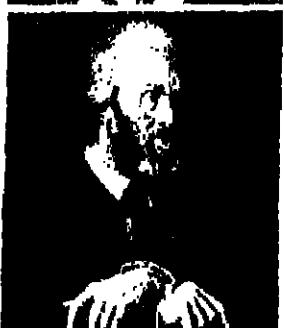
Faculty of Computing, Human and Social Sciences
Department of Computing

PRINCIPAL LECTURERS AND SENIOR LECTURERS GRADE II IN COMPUTING

Principal Lecturer: £12,228-£15,125 (Bar) £13,443-£16,342 (Bar) £17,444-£20,343 (Bar) £21,344-£24,245 (Bar) £25,246-£28,147 (Bar) £29,148-£32,049 (Bar) £33,050-£35,951 (Bar) £36,952-£39,853 (Bar) £40,854-£43,755 (Bar) £44,756-£47,657 (Bar) £48,658-£51,559 (Bar) £52,560-£55,461 (Bar) £56,462-£59,363 (Bar) £60,364-£63,265 (Bar) £64,266-£67,167 (Bar) £68,168-£71,069 (Bar) £72,070-£74,971 (Bar) £75,972-£78,873 (Bar) £79,874-£82,775 (Bar) £83,776-£86,677 (Bar) £87,678-£90,579 (Bar) £91,580-£94,481 (Bar) £95,482-£98,383 (Bar) £99,384-£102,285 (Bar) £103,286-£106,187 (Bar) £107,188-£110,089 (Bar) £111,090-£113,991 (Bar) £114,992-£117,893 (Bar) £118,894-£121,795 (Bar) £122,796-£125,697 (Bar) £126,698-£129,599 (Bar) £130,600-£133,501 (Bar) £134,502-£137,403 (Bar) £138,404-£141,305 (Bar) £142,306-£145,207 (Bar) £146,208-£149,109 (Bar) £150,110-£153,011 (Bar) £154,012-£156,913 (Bar) £157,914-£160,815 (Bar) £161,816-£164,717 (Bar) £165,718-£168,619 (Bar) £169,620-£172,521 (Bar) £173,522-£176,423 (Bar) £177,424-£180,325 (Bar) £181,326-£184,227 (Bar) £185,228-£188,129 (Bar) £189,130-£192,031 (Bar) £193,032-£195,933 (Bar) £196,934-£199,835 (Bar) £200,836-£203,737 (Bar) £204,738-£207,639 (Bar) £208,640-£211,541 (Bar) £212,542-£215,443 (Bar) £216,444-£219,345 (Bar) £220,346-£223,247 (Bar) £224,248-£227,149 (Bar) £228,150-£231,051 (Bar) £232,052-£234,953 (Bar) £236,954-£239,855 (Bar) £240,856-£243,757 (Bar) £244,758-£247,659 (Bar) £248,660-£251,561 (Bar) £252,562-£255,463 (Bar) £256,464-£259,365 (Bar) £260,366-£263,267 (Bar) £264,268-£267,169 (Bar) £268,170-£271,071 (Bar) £272,072-£274,973 (Bar) £276,974-£279,875 (Bar) £280,876-£283,777 (Bar) £284,778-£287,679 (Bar) £288,680-£291,581 (Bar) £292,582-£295,483 (Bar) £296,484-£299,385 (Bar) £300,386-£303,287 (Bar) £304,288-£307,189 (Bar) £308,190-£311,091 (Bar) £312,092-£314,993 (Bar) £316,994-£319,895 (Bar) £320,896-£323,797 (Bar) £324,798-£327,699 (Bar) £328,700-£331,601 (Bar) £332,602-£335,503 (Bar) £336,504-£339,405 (Bar) £340,406-£343,307 (Bar) £344,308-£347,209 (Bar) £348,210-£351,111 (Bar) £352,112-£355,013 (Bar) £356,014-£358,915 (Bar) £360,916-£363,817 (Bar) £364,818-£367,719 (Bar) £368,720-£371,621 (Bar) £372,622-£375,523 (Bar) £376,524-£379,425 (Bar) £380,426-£383,327 (Bar) £384,328-£387,229 (Bar) £388,230-£391,131 (Bar) £392,132-£395,033 (Bar) £396,034-£398,935 (Bar) £400,936-£403,837 (Bar) £404,838-£407,739 (Bar) £408,740-£411,641 (Bar) £412,642-£415,543 (Bar) £416,544-£419,445 (Bar) £420,446-£423,347 (Bar) £424,348-£427,249 (Bar) £428,250-£431,151 (Bar) £432,152-£435,053 (Bar) £436,054-£438,955 (Bar) £440,956-£443,857 (Bar) £444,858-£447,759 (Bar) £448,760-£451,661 (Bar) £452,662-£455,563 (Bar) £456,564-£459,465 (Bar) £460,466-£463,367 (Bar) £464,368-£467,269 (Bar) £468,270-£471,171 (Bar) £472,172-£475,073 (Bar) £476,074-£478,975 (Bar) £480,976-£483,877 (Bar) £484,878-£487,779 (Bar) £488,780-£491,681 (Bar) £492,682-£495,583 (Bar) £496,584-£499,485 (Bar) £500,486-£503,387 (Bar) £504,388-£507,289 (Bar) £508,290-£511,191 (Bar) £512,192-£515,093 (Bar) £516,094-£518,995 (Bar) £520,996-£523,897 (Bar) £524,898-£527,799 (Bar) £528,800-£531,701 (Bar) £532,702-£535,603 (Bar) £536,604-£539,505 (Bar) £540,506-£543,407 (Bar) £544,408-£547,309 (Bar) £548,310-£551,211 (Bar) £552,212-£555,113 (Bar) £556,114-£559,015 (Bar) £560,016-£562,917 (Bar) £564,918-£567,819 (Bar) £568,820-£571,721 (Bar) £572,722-£575,623 (Bar) £576,624-£579,525 (Bar) £580,526-£583,427 (Bar) £584,428-£587,329 (Bar) £588,330-£591,231 (Bar) £592,232-£595,133 (Bar) £596,134-£599,035 (Bar) £600,036-£602,937 (Bar) £604,938-£607,839 (Bar) £608,840-£611,741 (Bar) £612,742-£615,643 (Bar) £616,644-£619,545 (Bar) £620,546-£623,447 (Bar) £624,448-£627,349 (Bar) £628,350-£631,251 (Bar) £632,252-£635,153 (Bar) £636,154-£639,055 (Bar) £640,056-£642,957 (Bar) £644,958-£647,859 (Bar) £648,860-£651,761 (Bar) £652,762-£655,663 (Bar) £656,664-£659,565 (Bar) £660,566-£663,467 (Bar) £664,468-£667,369 (Bar) £668,370-£671,271 (Bar) £672,272-£675,173 (Bar) £676,174-£679,075 (Bar) £680,076-£682,977 (Bar) £684,978-£687,879 (Bar) £688,880-£691,781 (Bar) £692,782-£695,683 (Bar) £696,684-£699,585 (Bar) £700,586-£703,487 (Bar) £704,488-£707,389 (Bar) £708,390-£711,291 (Bar) £712,292-£715,193 (Bar) £716,194-£719,095 (Bar) £720,096-£722,997 (Bar) £724,998-£727,899 (Bar) £728,900-£731,801 (Bar) £732,802-£735,703 (Bar) £736,704-£739,605 (Bar) £740,606-£743,507 (Bar) £744,508-£747,409 (Bar) £748,410-£751,311 (Bar) £752,312-£755,213 (Bar) £756,214-£759,115 (Bar) £760,116-£763,017 (Bar) £764,018-£766,919 (Bar) £768,920-£771,821 (Bar) £772,822-£775,723 (Bar) £776,724-£779,625 (Bar) £780,626-£783,527 (Bar) £784,528-£787,429 (Bar) £788,430-£791,331 (Bar) £792,332-£795,233 (Bar) £796,234-£799,135 (Bar) £800,136-£803,037 (Bar) £804,038-£806,939 (Bar) £808,940-£811,841 (Bar) £812,842-£815,743 (Bar) £816,744-£819,645 (Bar) £820,646-£823,547 (Bar) £824,548-£827,449 (Bar) £828,450-£831,351 (Bar) 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Dividing the second class

The first instinctive reaction to the news that Oxford University is at last seriously considering the division of the second class of its honours degrees is simple relief that another anachronism is about to be abolished. How strange that it should have taken Oxford so long to fall into line. How unfair to all those who just missed a first to be lumped in a jumbo class with those who just avoided the third. How much more convenient it will be for research councils once the 2:1 sheep have been clearly separated from the 2:2 goats. These are the conventional thoughts that immediately come to mind on hearing the news from Oxford.

A second more reflective reaction, however, may be discreet sadness that Oxford has finally and unequivocally joined the degree rat race. Of course Oxford like all British universities (and now the University Grants Committee) is obsessed by the quality of its graduates, which is generally regarded as virtually synonymous with the class of their degrees. The Norrington table of college firsts is at least as competitive an index as that of research grants made to departments.

But this Oxford obsession with first class degrees is not necessarily inconsistent with the long and surprising survival of an undivided second class. The theory presumably is that it should be possible to identify and recognize the truly clever - Lord Asquith's "thin clear stream of excellence" - although terrible mistakes may be made both ways, but that it is less desirable or necessary to make a distinction within the broad mass of the intelligent and the competent. Obviously in a system that allows almost no outright failures, this broad mass does need to be

distinguished from those who have nearly or effectively "failed". But this last feature is common ground between the Oxford and the non-Oxford patterns of degree classification.

Outside Oxford degree classifications express a rather different theory. The division of the second class into upper and lower implies the separation of graduates into the successful sheep (firsts and upper seconds) and the not so successful goats (lower seconds and thirds). The advantage is that this produces a split which is convenient to research councils in terms of post-graduate potential and to employers who find this crude division into sheep and goats useful. The disadvantage is that the 2:1/2:2 split opens a quite arbitrary fissure in the broad mass of the intelligent and competent that is much harder to justify than the distinctions between firsts and seconds, and seconds and thirds.

In simple terms the Oxford pattern suggests that apart from identifying the truly talented and the almost failed, degrees should not really be classified; the non-Oxford pattern is more like the old eleven-plus examination and seeks to reward those who have done well. One virtue of the former is that it does not rank graduates in a neat order that can easily be used (or misused) by research councils, employers and other consumers of graduates. It is not necessarily a bad thing to force them to devise and apply their own criteria for choosing the best graduates rather than uncritically adopting the *ersatz* academic criteria embodied in degree classifications. Even in the particular case of research potential not all firsts and upper seconds are suitable; nor all lower seconds unsuitable. In secular employment the correlation between

degree class and vocational suitability is even weaker.

No doubt Oxford will agree to divide its second class, although the conservative instincts of its Congregation should never be underestimated. But this episode should not perhaps be allowed to pass without asking the simple question - why do we classify degree results instead of operating a simple pass/fail system as in many other countries?

The simple but perhaps superficial answer is that it is administratively convenient. But is it really the job of universities to produce prepackaged graduates ready for uncritical consumption? Another reason is that degree classification is an essential element in the whole idea of an honours degree and the disciplinary specialization that lies behind it. Another is that as secondary schools have slowly abandoned their grading function, the pressure on higher education to pick the winners instead has increased.

Yet why should a simple pass/fail system, backed up by a detailed transcript of a graduate's achievement, not work as well or even better than the present system of arbitrary and inflexible degree classification? The pass/fail procedure would force the employers of graduates to make up their own minds about both the criteria and the individuals of their choice. But the transcript would provide the detailed information on which sensible and sophisticated judgments could be made in appropriate cases. So the Oxford decision may seem at first sight nothing more than the sweeping up of a few cobwebs; but it provokes some very interesting questions.

Is there anyone up there?

Arthur Koestler's bequest to establish a chair in parapsychology placed the universities in a cruel dilemma. The terms of his will made it impossible to take the money without at the same time endorsing the intellectual claims of parapsychology. That was why it had to be a chair; a discreet lectureship or a modest research programme would not do.

The universities' verdict is that despite their great need for such income they are not prepared to go very far towards endorsing the claims of parapsychology. Some were sorely tempted by the money; others were attracted by the excitement of a bizarre enterprise. But in the end most declined to join the race for the Koestler chair, which was still undecided this week. Their academic scruples were stronger than either their greed or their curiosity.

This reluctant verdict is very much to the universities' credit. It is always difficult to advocate that any study should be excluded from higher education. The university should be as catholic an institution as possible in its intellectual pursuits, the *studium generale* of medieval tradition. But

there must be limits and parapsychology is right at the limit if not beyond it.

Of course the intellectual life of higher education is very much influenced by the great metaphysical traditions, Christianity itself and in this century Marxism and Freudianism. It is going too far to argue that only those questions that can be proved or disproved are fit to be the subject of rational inquiry. Many metaphysical systems have begun as provisional metaphors that have later been refined into proper scientific descriptions. Others are incapable of advancing beyond the metaphysical stage by the nature of their beliefs, but do not deserve to be branded as trivial or anti-scientific for that reason.

But parapsychology fits into neither category. The decision to regard it as an independent study, which is the only interpretation that can be placed on the establishment of a chair with this title, carries great dangers. It is one thing to allow or encourage unorthodox lines of inquiry in psychology within the guiding framework of that and other scientific disciplines. It is quite another to establish a free-standing discipline independent from

and even antagonistic to mainstream psychology, which will inevitably generate its own theories and traditions. At the best such theories are likely to be chaotic and undisciplined by any proper scientific tradition; at the worst they are likely to be drawn from cranky sources that in earlier centuries produced divination and astrology.

Parapsychology is not metaphysical but antiphysical. It is not simply a label to describe the study of abnormal psychological phenomena, although the winner may try to reduce it to that to save embarrassment. It is a rival discipline that disputes the scientific bases of orthodox psychology: for if it is not why the "para"? To object to parapsychology being granted a respected place in the university therefore is not to refuse to accept that there may be many things about the human mind we do not understand (and about the physical and social worlds), but to insist that knowledge must be pursued according to the careful rules of science. The university must sustain a coherent intellectual order not pander to the chaotic and atavistic imagination.

The image of sandwiches

Why are sandwich courses not more popular in British higher education, asks Mr Jason Tarsh of the Department of Employment (Economic Statistics)? Because they are already so popular, reply those responsible for sandwich courses in universities, polytechnics and colleges (compactly?). If Mr Tarsh's intention was to provoke new interest in sandwich courses by his speech at a recent London conference, he has certainly succeeded. Since we published the report we have received a large number of letters, nearly all in defence of sandwich courses.

Yet Mr Tarsh may have a point. For more than a generation successive governments have urged higher education to forge closer links with industry. Yet this constant pressure does not

seem to have led to such a large expansion of sandwich education as might have been expected. It is a bit of a mystery - and the mystery is not entirely dispelled by the encouraging facts and figures quoted by Leslie Davies of the Universities Committee on Integrated Courses in a letter published last week.

There does seem to be a worrying lack of resilience about sandwich courses. In the last ten years the number of university students on these courses has certainly grown - but less rapidly than the total student population. The treatment by the University Grants Committee in 1981 of the technological universities, which offer the lion's share of sandwich courses, is still, for recent and 1986 controversial for comfort. But on no possible inter-

pretation can it be argued that these events did much to lift the reputation of sandwich education. The position in the polytechnics and colleges is better. Sandwich courses have held their own - but sometimes with difficulty.

The problems associated with running sandwich courses are well understood. It is less demanding administratively to offer full-time than sandwich courses, although many people would argue that the latter are far more satisfying educationally. The difficulty of finding industrial placements is obviously greater in a time of economic recession. Clearly these problems are part of the reason for any lack of resilience. But another part may be the image of sandwich education. Perhaps sandwich courses need a face-lift - less of the dark Satanic mills and more of the high tech?

Laurie Taylor



You're through now, Professor Lapping.

Thank you, Maureen. Hello, Roger, Gordon.

How are you? Must be 10 years. All of 12.

Really? Best part certainly. How's your department?

Oh, trudging along. Can't complain. One or two of them seem to have taken early retirement without mentioning it to anyone! And yours? Much the same. The students keep getting younger.

Don't they just. Are you keeping fit? Not too bad. A spot of trouble last term with the old back. Otherwise clean bill. And you?

A little weekend-rambling when the weather permits. No cricket? Remember when you bowled your round-the-wicket stuff and had the cream of that Bristol University team back in the pavilion for 93?

And you came in second wicket down and put on 87. Eighty-eight, now you mention it! Happy days.

Look, Roger, you'll know what I'm phoning about. Of course, old chap.

I just wanted to say that I've popped you down as third on both lists. If you felt able to do the same. Only too pleased, Gordon. As good as done. Keep in touch, won't you?

I will. All the best. Bye. I've got Professor Carnforth on the other line, Professor Lapping.

Jolly good. Hello, Geoffrey. Gordon, you old bugger! How are you? Must be 15 years.

Sixteen. World Association conference in New Orleans. Good heavens. You're absolutely right. What a night that was, eh? I thought we'd never get you up those stairs, you simply wouldn't let go of that...

I know, I know. And the sight of you, four sheets to the wind, sitting in the middle of Basin Street singing *Frankie and Johnny*. What a night.

It certainly was. Look, Geoffrey, you'll know what I'm phoning you about.

Quite so, old chap. In fact I've already done it. I've marked you down as second on both lists.

That's jolly nice of you, Geoffrey, and of course, we'll be doing the same for you from our end. Excellent. Don't let's leave it so long before the next time, eh?

No, let's not. Bye.

Professor Dukinfield on the black phone, Professor Lapping. Shall I put him through?

You know, Maureen, I'll tell you one thing, those peer reviews in *The THES* may be a lot of nonsense but they certainly remind you who your friends are. Jimbo, is that you?

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